STUDY GUIDE 2025
3rd Year MBBS

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CMH LMC & IOD

Introduction to Study Guide

This study guide has been developed to provide students, faculty and the others stakeholders with a structured overview of the MBBS Year III curriculum, in accordance with the guidelines and requirements of National University of Medical Sciences and Pakistan Medical & Dental Council. It serves as an official academic reference to support students' learning, assessment, and progression throughout the academic year.

This guide outlines the approved curricular framework to help you understand the competencies you are expected to achieve in 3rd year MBBS, the learning outcomes of each module, the teaching and learning strategies employed, and the methods by which students 'performance will be assessed. The curriculum at CMH Lahore Medical College follows a competency-based and integrated approach. It is accomplished through logical sequencing of topics representing relevant subjects within modules and blocks for interactive lecturing. Whereas, clinical rotations complement theoretical concepts learnt in pharmacology, pathology, forensic medicine, behavioral science, medicine, and surgery. This structure enables you to correlate knowledge from basic, paraclinical, and clinical sciences and apply it effectively in clinical settings.

Your progress will be evaluated through both formative and summative assessment methods, including class tests modular & block examinations (contributing towards continuous assessment), and the University professional examination, all aligned with defined learning outcomes.

CMH Lahore Medical College aims to improve health indicators of the community and society at large by training future doctors in preventive healthcare services, and health education through community outreach programs. The MBBS curriculum at CMH Lahore Medical College also offers learning of medical education, leadership, professionalism, and management via dedicated teaching hours in the academic calendar.

The curriculum is reviewed regularly through established quality assurance processes. Students' feedback, along with faculty's input, is collected after completion of each block and reviewed by the Local Quality Enhancement Cell and curriculum committees to ensure continuous improvement and ongoing alignment with national and international standards.

Students are advised to use this study guide throughout the academic year as a reference to understand curricular expectations, assessment requirements, and your academic responsibilities.

May this guide help you stay focused, learn with purpose, and grow with confidence as you progress toward becoming a competent, ethical, and compassionate doctor!

School of Health Professions Education

(SHaPE)

CMH LMC & IOD

Vision of National University of Medical Sciences

To be the best medical university by conducting world-class bio-medical research and creative research activities that develop knowledge and contribute to improve the health care system and social advancement for the people of Pakistan and benefit humanity as a whole with a standard of excellence.

Mission of National University of Medical Sciences

Our mission is to emphasize rigorous research fundamentals while stimulating innovation and providing talented students and faculty with the high standard research facilities in the colleges/institutions of NUMS, necessary to achieve excellence in bio-medical research to contribute toward best care for our individuals and communities, embraces the challenges of health disparities and improve health care system up to international standards.

Vision of CMH Lahore Medical College and Institute of Dentistry

To be a leading institute in medical education that provides an inclusive and conducive environment to foster excellence in teaching, learning, acquisition of clinical skills, research, and innovation to improve future health indicators within our region and beyond.

Yearly Outcomes:

1) Medical Knowledge	Explain the mechanisms of cell and tissue injury, including how the body responds to injury and carries out repair and healing.
2) Clinical Reasoning	• Correlate the key morphological and pathogenic characteristics of microorganisms, including laboratory diagnosis, prevention strategies, and virulence factors with their clinical significance. • Apply principles of pharmacokinetics, pharmacodynamics, applied pharmacology, and therapeutics in patient management. • Demonstrate appropriate infection prevention and control practices in clinical settings.
3) Communication Skills	Apply concepts of social and behavioural sciences to clinical subjects and patient care. Elicit a comprehensive medical history and perform a focused physical examination for common medical and surgical conditions
4) Professionalism & Ethics	Recognize and explain the importance of medico-legal aspects in medical practice.
5) Evidence Based Practice & Research	Apply principles of evidence-based medicine, formulate a research question, conduct a literature review, and demonstrate basic research skills. Formulate a research topic and conduct a structured review of relevant medical literature.

Mission of CMH Lahore Medical College and Institute of Dentistry

To improve healthcare by:

1. Providing quality medical education that prepares healthcare professionals according to internationally accepted benchmarks for empathy, social accountability, lifelong learning, critical thinking, and sound clinical acumen.
2. Ensuring a conducive and equitable learning environment in research and continuous professional development for students and faculty respectively, enabling their success in national and international licensure examinations and opportunities.
3. Fostering evidence-based and patient-centered care to efficiently address global healthcare challenges, focusing on prevention and community health improvement.

Undergraduate Competencies

CMH Lahore Medical College and Institute of Dentistry aims to produce graduates who are proficient in following competencies

Medical Expert	Communicator	Collaborator	Scholar	Professional
Evidence-Based & Holistic Practitioner	Critical Thinker	Community Service Provider	Self-Regulated Learner	Empathetic Care Provider

MBBS Curriculum Framework

Why This Curriculum?

This curriculum is designed by the National University of Medical Sciences to prepare medical students in delivering safe, efficient, and evidence-based care in response to local and international healthcare needs. This curriculum is designed using established educational principles to support structured learning, guided practice, and timely feedback. It promotes small-group learning, critical thinking, clinical decision-making, and problem-solving skills essential for medical practice.

How You Will Learn

Throughout the MBBS program, your learning will take place through a combination of:

Structure of the MBBS Program

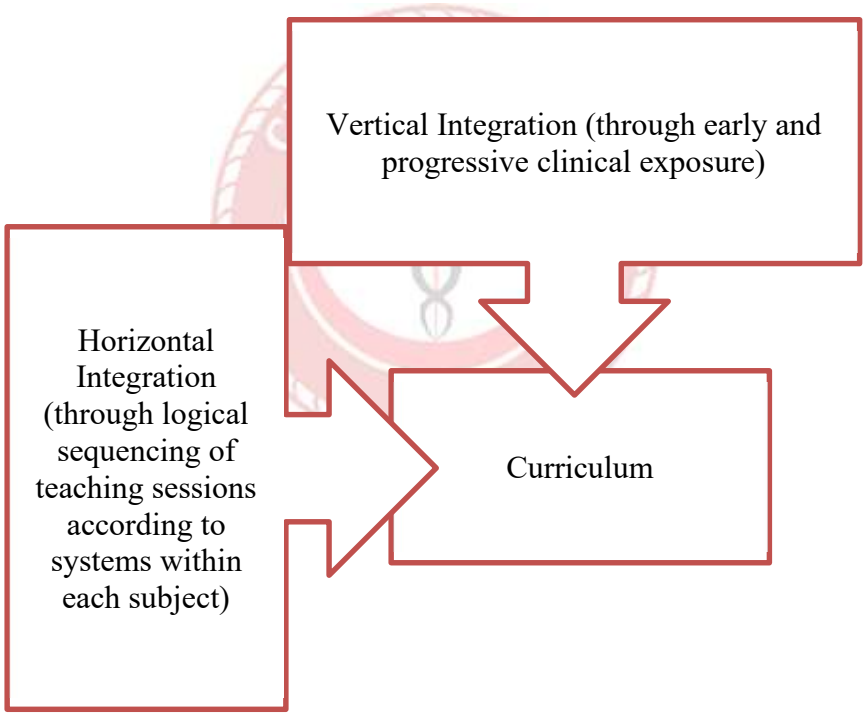
The MBBS curriculum is organized into **two integrated phases**

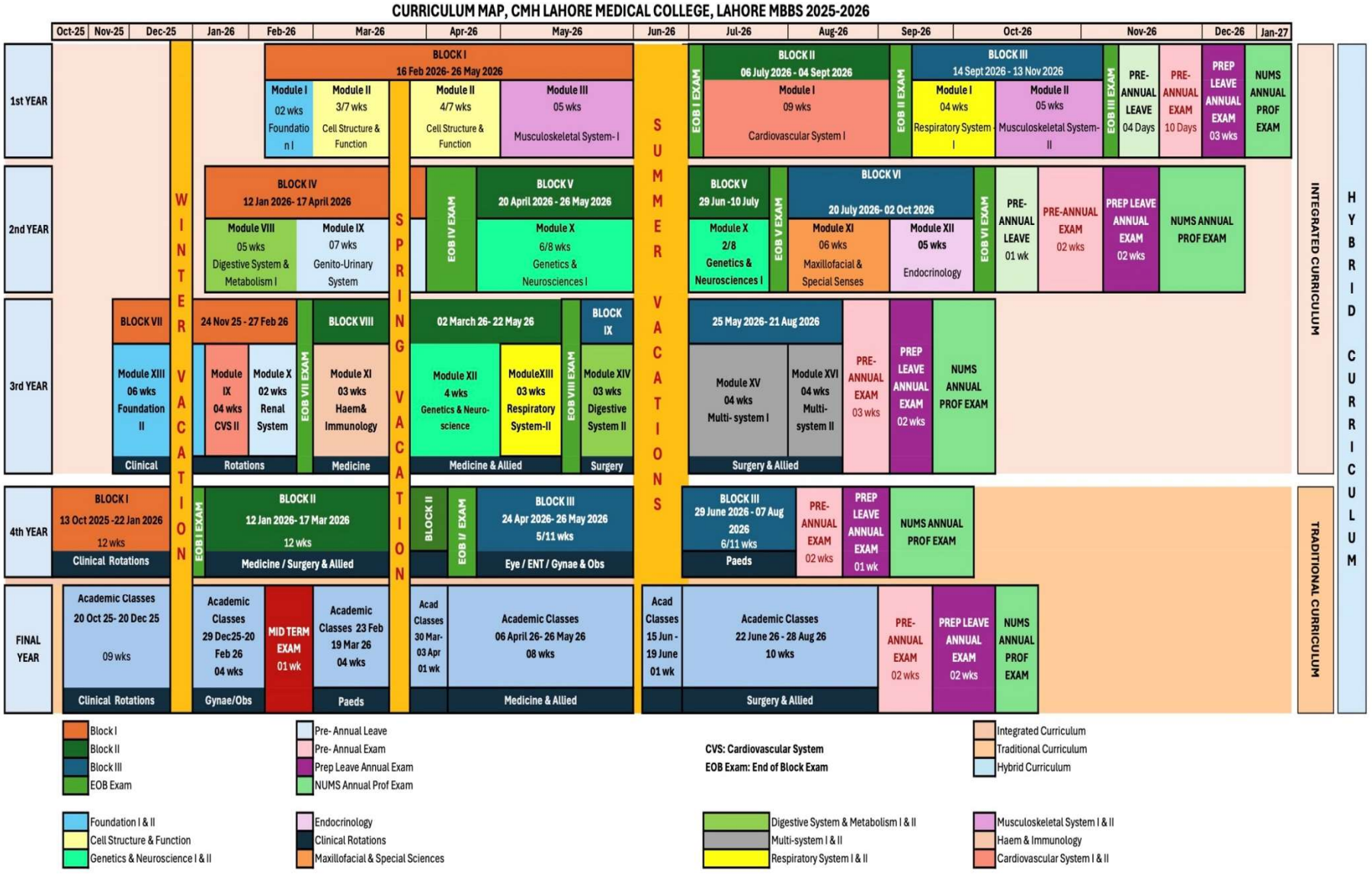
Phase 1: Foundations of Medicine (Years 1–2)

Includes basic sciences namely, Anatomy, Physiology, Biochemistry with horizontal integration within the basic sciences and vertical integration through interactive lectures in Surgery, Medicine, Behavioral Sciences, and integrated seminars for early clinical exposure.

Phase 2: Application and Clinical Practice (Years 3–5)
Includes paraclinical and clinical sciences namely, Pharmacology, General Pathology, Special Pathology, Community Medicine, Forensic Medicine, Behavioral Sciences, Eye, ENT, Medicine, Psychiatry, Pediatrics, Surgery, and OBGYN, Internal Medicine, Gastroenterology, Rheumatology, Dermatology, Pulmonology, Cardiology, Nephrology, Endocrinology, General Surgery, Orthopedics and Urology. This phase includes lectures, integrated large group sessions, small group discussions, tutorials, CPCs, ambulatory care teaching, and clinical rotations.

As a medical student, you are currently in year 3.
In Year 3, you will:
Understand disease mechanisms and correlate them with clinical features
Learn the pharmacological management of common conditions
Begin structured clinical rotations in core clinical disciplines
Develop communication skills, professionalism, ethics, and leadership
Learn the principles of research methodology and evidence-based medicine
Year 3 is meant to bridges the gap between understanding disease and managing patients.
Integrated Curricular Approach
The curriculum follows an integrated approach, with:




CURRICULUM MAP, CMH LAHORE MEDICAL COLLEGE, LAHORE MBBS 2025-2026
Oct-25
Nov-25
Dec-25
Jan-26
Feb-26
Mar-26
Apr-26
May-26
Jun-26
Jul-26
Aug-26
Sep-26
Oct-26
Nov-26
Dec-26
Jan-27
1st YEAR
BLOCK I
16 Feb 2026- 26 May 2026
Module I
02 wks
Foundation I
Module II
3/7 wks
Cell Structure & Function
Module II
4/7 wks
Cell Structure & Function
Module III
05 wks
Musculoskeletal System- I
EOB I EXAM
BLOCK II
06 July 2026 - 04 Sept 2026
Module I
09 wks
Cardiovascular System I
EOB II EXAM
BLOCK III
14 Sept 2026 - 13 Nov 2026
Module I
04 wks
Respiratory System - I
Module II
05 wks
Musculoskeletal System- II
EOB III EXAM
PRE-ANNUAL LEAVE
04 Days
PRE-ANNUAL EXAM
10 Days
PREP LEAVE ANNUAL EXAM
03 wks
NUMS ANNUAL PROF EXAM
2nd YEAR
BLOCK IV
12 Jan 2026- 17 April 2026
Module VIII
05 wks
Digestive System & Metabolism I
Module IX
07 wks
Genito-Urinary System
EOB IV EXAM
BLOCK V
20 April 2026 - 26 May 2026
Module X
6/8 wks
Genetics & Neurosciences I
BLOCK V
29 Jun -10 July
Module X
2/8
Genetics & Neurosciences I
EOB V EXAM
BLOCK VI
20 July 2026- 02 Oct 2026
Module XI
06 wks
Maxillofacial & Special Senses
Module XII
05 wks
Endocrinology
EOB VI EXAM
PRE-ANNUAL LEAVE
01 wk
PRE-ANNUAL EXAM
02 wks
PREP LEAVE ANNUAL EXAM
02 wks
NUMS ANNUAL PROF EXAM
3rd YEAR
BLOCK VII
Module XIII
06 wks
Foundation II
Clinical
24 Nov 25 - 27 Feb 26
Module IX
04 wks
CVS II
Module X
02 wks
Renal System
Rotations
EOB VII EXAM
BLOCK VIII
Module XI
03 wks
Haem& Immunology
Medicine
02 March 26- 22 May 26
Module XII
4 wks
Genetics & Neuro-science
ModuleXIII
03 wks
Respiratory System-II
Medicine & Allied
EOB VIII EXAM
BLOCK IX
Module XIV
03 wks
Digestive System II
Surgery
25 May 2026- 21 Aug 2026
Module XV
04 wks
Multi- system I
Module XVI
04 wks
Multi-system II
Surgery & Allied
PRE-ANNUAL EXAM
03 wks
PREP LEAVE ANNUAL EXAM
02 wks
NUMS ANNUAL PROF EXAM
4th YEAR
BLOCK I
13 Oct 2025 -22 Jan 2026
12 wks
Clinical Rotations
EOB I EXAM
BLOCK II
12 Jan 2026- 17 Mar 2026
12 wks
Medicine / Surgery & Allied
BLOCK II
EOB II EXAM
BLOCK III
24 Apr 2026- 26 May 2026
5/11 wks
Eye / ENT / Gynae & Obs
BLOCK III
29 June 2026 - 07 Aug 2026
6/11 wks
Paeds
PRE-ANNUAL EXAM
02 wks
PREP LEAVE ANNUAL EXAM
01 wk
NUMS ANNUAL PROF EXAM
FINAL YEAR
Academic Classes
20 Oct 25- 20 Dec 25
09 wks
Clinical Rotations
Academic Classes
29 Dec25-20 Feb 26
04 wks
Gynae/Obs
MID TERM EXAM
01 wk
Academic Classes 23 Feb 19 Mar 26
04 wks
Paeds
Acad Classes
30 Mar-03 Apr
01 wk
Academic Classes
06 April 26- 26 May 26
08 wks
Medicine & Allied
Acad Classes
15 Jun - 19 June
01 wk
Academic Classes
22 June 26 - 28 Aug 26
10 wks
Surgery & Allied
PRE-ANNUAL EXAM
02 wks
PREP LEAVE ANNUAL EXAM
02 wks
NUMS ANNUAL PROF EXAM
WINTER VACATION
SPRING VACATION
SUMMER VACATIONS
INTEGRATED CURRICULUM
TRADITIONAL CURRICULUM
HYBRID CURRICULUM
Block I
Block II
Block III
EOB Exam
Pre- Annual Leave
Pre- Annual Exam
Prep Leave Annual Exam
NUMS Annual Prof Exam
CVS: Cardiovascular System
EOB Exam: End of Block Exam
Integrated Curriculum
Traditional Curriculum
Hybrid Curriculum
Foundation I & II
Cell Structure & Function
Genetics & Neuroscience I & II
Endocrinology
Clinical Rotations
Maxillofacial & Special Sciences
Digestive System & Metabolism I & II
Multi-system I & II
Respiratory System I & II
Musculoskeletal System I & II
Haem & Immunology
Cardiovascular System I & II

Placement of Module within Blocks in 3rd Year MBBS Curriculum

Blocks	**VII (12+1=13 weeks)**				**VIII (10+01=11 weeks)**				**IX (11+01=12 weeks)**			
36 weeks	06	04	02	1	03	04	03	1	03	04	04	1
Modules	Foundation II	Cardiovascular System II	Renal Module	**EOB**	Haem & Immunology II	Genetics & Neurosciences	Respiratory System II	**EOB**	Digestive System & Metabolism II	Multisystem I (Neoplasia)	Multisystem II (Infectious Diseases)	**EOB**
Integration: Pharmacology, General Pathology, Microbiology, Community Medicine, Infection Control, Patient Safety and relevant disciplines												
Across the year: Forensic Medicine, Behavioral Sciences, Research Methodology												

Subjects in 3rd Year MBBS

Integrated Subjects

Following are the basic and clinical subjects integrated together which will be assessed together throughout the academic year.

Pharmacology	Pathology	Medicine & Allied	Surgery & Allied	Gynae & Obs	Pediatrics

Core Subjects

Following are the core subjects for 3rd year MBBS for which professional examination will be held at the end of the academic year:

Forenisc Medicine	Behavioural Sciences	Pharmacology

Teaching and Learning Methods

The teaching-learning will be through diverse methods and will include

1) Large group interactive sessions (LGIS)

2) Flipped Classroom

3) Small group discussions (SGD) including tutorials and demonstrations

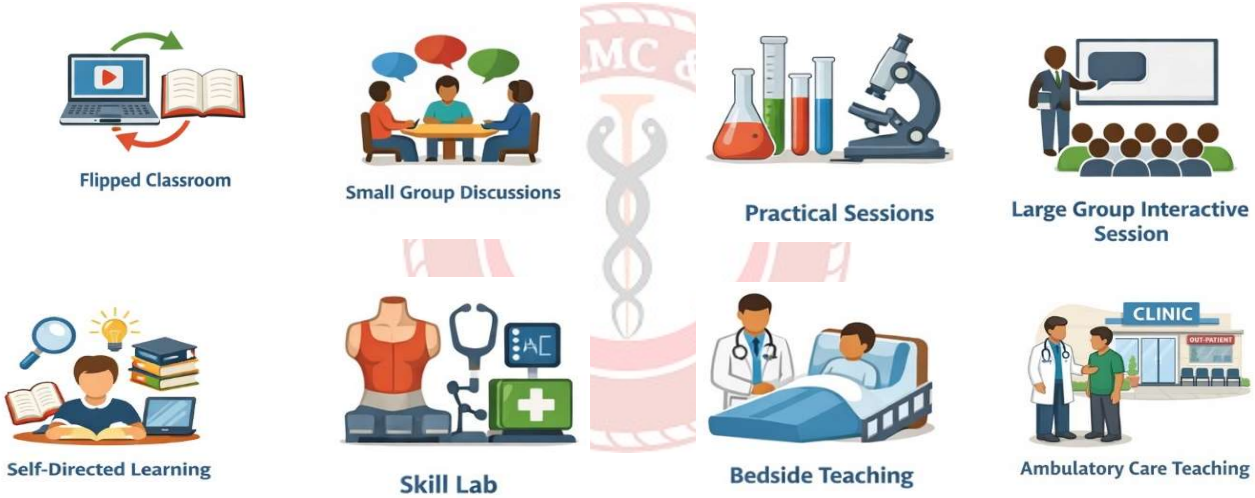
4) Practical sessions/hands on training (Laboratory work)

5) Skill lab

6) Bedside teaching

7) Ambulatory Care teaching

8) Sessions of self-directed learning (SDL). This is the time during which students are expected to revise what they have learnt in the class, clear their confusions by consulting different texts and reference books.



Clinical Rotations in year III – (Medicine, Surgery & Pediatrics)

During Year III, students will undertake supervised clinical rotations in Medicine, Surgery, and Pediatrics**,** with exposure to both outpatient and inpatient settings. These rotations aim to develop essential clinical skills and enable students to apply knowledge of pharmacology, pathology and behavioural sciences in real-life patient care. By the end of the third-year clinical rotations, students will be able to:

1) Identify common patient symptoms and presentations.
2) Differentiate between normal and abnormal clinical signs.
3) Communicate effectively with patients, senior clinicians, and colleagues.
4) Follow a structured approach to history taking.

5) Obtain a detailed and relevant clinical history.
6) Perform general physical and system-based examinations.
7) Observe and assist in relevant clinical procedures, as appropriate.

Assessment and Documentation

Students are required to maintain a **l**ogbook to document clinical activities and skill acquisition. This must be regularly reviewed and countersigned by the supervising faculty.

At the end of each rotation, students will undertake a clinical examination**.** The combined performance in these assessments will contribute 20% to the internal assessment for the final year**.**

Assessment Plan

The assessment plan comprises 2-3 term tests, 1 send-up, and 1 professional examination. Examination consists of one-best multiple-choice questions and short essay type questions along with OSPE/OSCE. All exams except for University's exam/professional exam contribute towards internal assessment of the respective subjects according to the institutional policy. The assessment schedule is given below

Internal Assessment (Theory) – MBBS Year III

Criteria	Percentage	Blocks I / II/ III
Continuous assessment : (Average score of class tests/ quizzes etc)	**03 %**	**Marks obtained* 3 / Total Marks**
EOB Exam; For each discipline;	**05 %**	**Marks obtained* 5 / Total Marks**
Attendance	**02 %**	▪ **95 % = 02** ▪ **90- 94 % = 1.5** ▪ **85 - 89 % = 01**

Internal Assessment (Practical) – MBBS Year III

Criteria	Percentage	Blocks I / II/ III
Continuous assessment (EOB)	**05%**	**Marks obtained * 5/Total Marks**
Attendance	**02 %**	▪ **95 % = 02** ▪ **90- 94 % = 1.5** ▪ **85 - 89 % = 01**
Practical books/Logbooks	**01%**	**Obtained marks * 01 / Total marks**
Discipline/Attitude, Responsibility and Teamwork	**02 %**	**Obtained marks* 02 / Total marks**
Pre Annual Practicals	**10%**	**Marks obtained* 10 /Total Marks**
Final IA	**20%**	

Roles and Responsibilities

User Role	Permissions
Students	Access lectures, take quizzes, and submit assignments.
Instructors	Upload course content, grade assignments, and track students' performance.
SHaPE & QEC	Review course quality, quizzes, assignments, and suggest modifications accordingly.
IT Department	Manage user accounts, add or remove courses, and deploy updates.

Yearly Curriculum Committee 3rd Year MBBS 2024-25

Name	Department	Extension no	Designation
Prof. Dr. Imran Hameed Daula	Surgery	453	Convener 3rd year MBBS & Professor
Prof. Sadaf Nadir	Forensic Medicine	478	Professor
Dr. Waqar Ahmad Siddiqi	Pharmacology	465	HOD & Associate Professor
Dr. Afia	Pathology	489	Associate Professor
Dr. Irum Mansoor	Behavioral Sciences	446	Associate Professor
Dr. Qurat ul ain	Gynae & Obs	366	Associate Professor
Dr. Saba Saif	Medicine	471	Assistant Professor
Dr. Rizwana Kamran	SHaPE	392	Associate Professor
Student representation			CR, GR & MCR

BLOCK COORDINATORS FOR THIRD YEAR MBBS

BLOCKS	NAMES	DESIGNATIONS
BLOCK I	DR. AYELA EMAN ZIA	ASSOCIATE PROFESSOR
BLOCK II	DR. KANWAL HASSAN	ASSITANT PROFESSOR
BLOCK II	PROF.DR. SADAF NADIR	PROFESSOR

FOCAL PERSONS FOR THIRD YEAR MBBS MODULES

NAMES	SUBJECTS
DR. AYELA / DR. RABIA / DR. QURAT	PHARMACOLOGY
DR.KANWAL/DR.AFIA	PATHOLOGY
DR. SADAF NADIR	FORENSIC MEDICINE
DR. SABA SAIF	MEDICINE
BRIG.ADNAN KHALID	SURGERY
DR.ALI ATHAR/DR.IRUM	BEHAVORIAL SCIENCES
DR. QURATULAIN MUSHTAQ	GYNAE AND OBS
DR. TAHIRA	COMMUNITY MEDICINE
DR. SPENTA KAKALIA	PEDIATRICS

CHIEF CLINICAL COORDINATOR AND CLINICAL COORDINATOR

CHIEF CLINICAL COORDINATOR	PROF.DR. MUHAMMAD SIDDIQUE
CLINICAL COORDINATOR	BRIG.DR. ADNAN KHALID

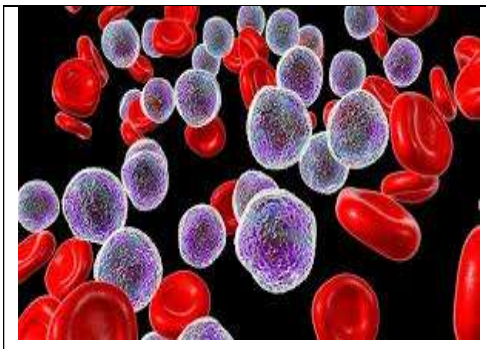
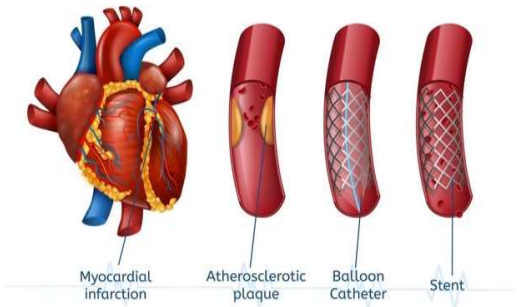
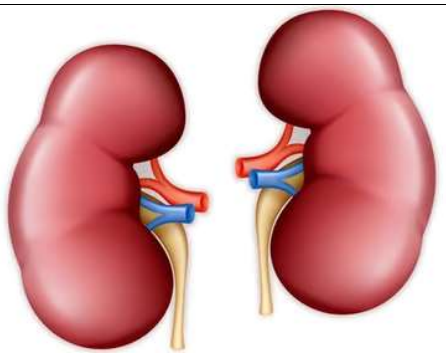
CMH Lahore Medical College - Policies

- Attendance and disciplinary policy https://cmhlahore.edu.pk/wp-content/uploads/2024/10/std-policy.pdf
- Policy for Steering Committee for the Selection of Class Representatives (BR and GR) Based on Student Feedback https://cmhlahore.edu.pk/wp-content/uploads/2025/01/Steering- committee.pdf
- Social Media Policy for Faculty, Staff, and Students https://cmhlahore.edu.pk/wp-content/uploads/2024/02/Social-Media-Policy-for-students-02-08-2023.pdf
- Code of Conduct https://cmhlahore.edu.pk/wp-content/uploads/2024/02/SOP-Code-of-Conduct-27-02-24.pdf
- Internet Usage Policy https://www.cmhlahore.edu.pk/wp-content/uploads/2023/09/CMH-Internet-Usage-Policy-02-08-2023.pdf
- Healthcare Facility https://www.cmhlahore.edu.pk/wp-content/uploads/2023/09/Health-Care-Facility.pdf
- Complaint Cell https://www.cmhlahore.edu.pk/wp-content/uploads/2023/09/Complaint-Cell-CMH-LMC-IOD.pdf
- Retake Policy (For Internal Assessment Only) https://www.cmhlahore.edu.pk/wp-content/uploads/2023/05/ion-Updated-Retake-Policy-2.pdf
- Drug and tobacco abuse/smoking https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/SOP-Drug-and-Tobacco.pdf
- Sexual harassment https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/Sexual-Hars-policy.pdf
- Disciplinary Committee Policy https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/Disciplinary-Committe-Policy.pdf
- Co-curricular Activities https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/Co-curricular-privacy-policy.pdf
- Electives Policy https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/electives-policy.pdf
- CMH LMC Formative Assessment and Feedback Policy https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/CMH-LMC-Formative-Assessment-and-Feedback-Policy.pdf

Block – VII

BLOCK VII (Overview)– Foundation to Heart & Kidney Care

Modules in this Block

		
Foundation–II (6 weeks)	**Cardiovascular System II (4 weeks)**	**Genitourinary System (2 weeks)**

Preamble:

This block builds your foundation in mechanisms of disease and then applies them to two major systems: the cardiovascular and genitourinary systems.
You will integrate learning from:

- Pathology
- Pharmacology
- Microbiology
- Medicine & Surgery
- Community Medicine
- Forensic Medicine
- Pediatrics
- Obstetrics & Gynaecology

Research Methodology and Behavioral Sciences continue as longitudinal themes.

Aim:

To enable students to understand basic mechanisms of disease and apply this knowledge to cardiovascular and renal disorders in real clinical settings using case-based learning, integrated teaching, and supervised clinical exposure.

Learning Outcomes:

Domain	Competency Area	Specific Learning Outcomes
Knowledge	**Explain**	• Cell injury, necrosis, apoptosis & inflammation • Shock, thrombosis, embolism & atherosclerosis
	Understand	• Common cardiac disorders (IHD, heart failure, hypertension) • Common renal disorders & UTIs • Major diuretic classes • Common CVS infections (endocarditis, rheumatic heart disease) • Medico-legal issues (sexual offences, consent)

Clinical Skills	**History Taking**	• Chest pain, dyspnea, palpitations, syncope • Fever, dysuria, flank pain, oliguria
	Examination Skills	• Cardiovascular examination • Renal / abdominal examination
	Investigations & Interpretation	• 12-lead ECG • Urine D/R & C/S • Lipid profile
	Practical Skills	• Hand hygiene • Proper PPE use
Professional Skills	**Ethics & Communication**	• Taking informed consent • Respecting patient privacy • Clear communication with patients & attendants
	Professionalism	• Teamwork in clinical settings • Ethical and medico-legal responsibility

Teaching & Learning Methods

How you will be assessed

- **End-of-block theory exam** – MCQs & SEQs
- **Formative assessment** – class tests, ward work, skills, logbook
- **Continuous internal assessment** (as per institutional policy)
- **OSCE / OSPE stations** – CVS exam, ECG, urine analysis

Tips for Success:

✓ Master general pathology early – it helps in better conceptual understanding of every system
✓ Practice CVS examination weekly
✓ Start learning ECG interpretation from week 1
✓ Study pharmacology alongside pathology
✓ Don't neglect forensic medicine topics
✓ Keep your logbook updated from day one

Learning Resources (Block VII)

General Pathology & Microbiology

- Core Textbooks
- Robbins & Cotran – *Pathologic Basis of Disease*, 10th ed
- Robbins – *Basic Pathology*, 11th ed
- Levinson – *Review of Medical Microbiology & Immunology*, 18th ed
- Jawetz, Melnick & Adelberg – *Medical Microbiology*, 28th ed
- Monica Cheesbrough – *District Laboratory Practice in Tropical Countries*
- Kaplan Medical – *Lecture Notes in Immunology & Microbiology*
- Online / Visual Learning
- WebPath (pathology image bank & quizzes)
- Pathology Outlines
- Osmosis (YouTube)
- MedicosNotes / Medicosis Perfectionalis (YouTube)
- Sketchy Microbiology

Pharmacology (High-yield for CVS & Renal topics)

- Core Textbooks
- Katzung & Trevor – *Basic & Clinical Pharmacology*, 16th ed
- Lippincott – *Illustrated Review of Pharmacology*, 8th ed
- Katzung – *Pharmacology Review*, 15th ed
- K.D. Tripathi – *Essentials of Medical Pharmacology*, 9th ed
- Reference Books
- Goodman & Gilman – *Pharmacological Basis of Therapeutics*
- Rang & Dale's Pharmacology
- Clinical Pharmacology – Brown, Sharma, Mir & Bennett
- Desk Reference of Clinical Pharmacology
- Digital / Revision Tools
- MyMedSchool – Pharmacology course
- Brainscape – Pharmacology flashcards
- Speed Pharmacology (YouTube)
- Osmosis (YouTube)
- Armando Hasudungan (YouTube)
- Block VII Focus Topics
- Antihypertensives
- Antianginals
- Heart failure drugs
- Antiarrhythmics
- Antiplatelets & anticoagulants
- Diuretics
- Drugs used in shock
- Nephrotoxic drugs & dose adjustment in renal disease

Forensic Medicine (CVS pathology, sexual offences, toxicology overlap)

Core Textbooks

- Nasib R. Awan – *Principles & Practice of Forensic Medicine*, 2nd ed

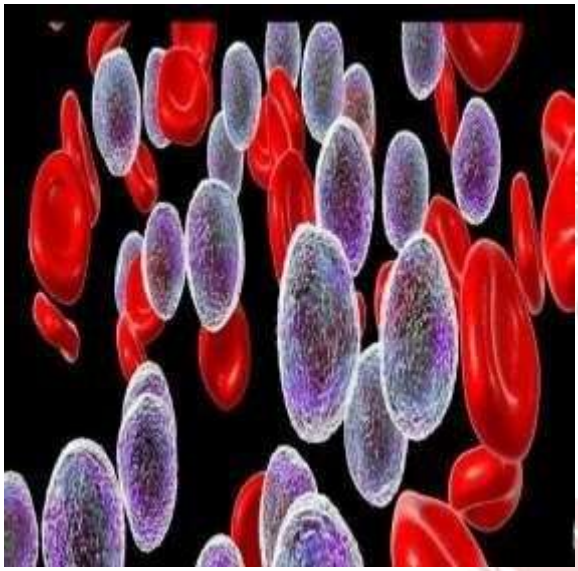
- Parekh – *Textbook of Forensic Medicine & Toxicology*, 8th ed
- Pervaiz Rana – *Practical Manual of Forensic Medicine (2025–26)*
- Useful for Block VII Topics
- Sexual offences & medico-legal examination
- Consent & negligence
- Sudden cardiac death
- Poisoning (organophosphates, opioids, etc.)
- Digital
- YouTube lectures (Dr. Javaid Iqbal Khokhar, Dr. Salman Rana)
- MedicalStudyZone – Forensic Medicine section

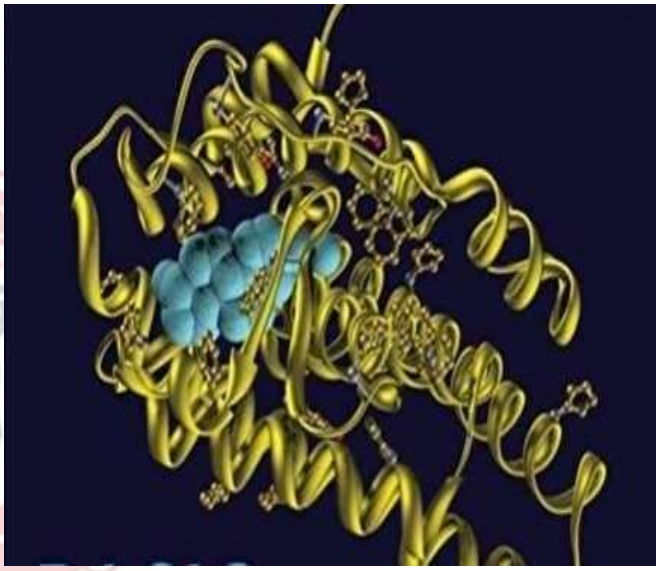
Community Medicine / Public Health (Longitudinal)

- Core Textbooks
- Shah–Ilyas–Ansari–Irfan – *Public Health & Community Medicine*, 8th ed
- Park – *Textbook of Preventive & Social Medicine*, 24th ed
- Reference
- Maxcy–Rosenau – *Public Health & Preventive Medicine*, 15th ed
- Bonita & Beaglehole – *Basic Epidemiology*, 2nd ed
- Kirkwood & Sterne – *Essentials of Medical Statistics*, 2nd ed

CONTENT OF BLOCK-VII, MODULE XIII (FOUNDATION II)

MBBS YEAR – III
BLOCK – VII
MODULE- XIII
Foundation - II Module
Prerequisite Module: Spiral I Modules (MBBS Year I & II)
Duration: 06 weeks





Preamble

Foundation II is the first module of Year III and therefore is an introduction to all preclinical sciences, the contents of which will be delivered and assessed during this year. This module will introduce the students to basic concepts required for understanding of disease process, its prevention and treatment which in turn will help them to apply these key concepts in future system-based modules. In the 2nd spiral, before students study any organ systems' pathology, it is essential for them to have clear concepts underlying them. At least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines.

Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme. Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Learning Outcomes:

By the end of this module the students will be able to

1. Comprehend the basic concepts of all preclinical discipline
2. Receive the patients in medical and surgical clinics

Structured Summary of Module		
No.	Disciplines	Course Content
1	General Pathology	Cell Injury, Cell Death, and Adaptations, Inflammation & Repair
2	Microbiology	General Microbiology, Bacteriology, Virology, Parasitology, Mycology
3	Pharmacology & Therapeutics	General Pharmacology, Autonomic Nervous System
4	Medicine	History taking & Clinical Examination
5	Surgery	History taking & Clinical Examination, Steps of wound examination
6	Obs & Gynae	• Maternal Anatomy/ Physiology in pregnancy and labor • Pre-Pregnancy Care • Antenatal Care
7	Pediatrics	Growth and development
8	Behavioral Sciences	Communication skills, empathy, and critical thinking in uncertain clinical situations, patient interactions, and health education
9	Community Medicine & Public Health	• Importance of public health in medicine • Health care system; Introduction • Terms used in communicating information related to communicable disease • Chain of transmission of infection
10	Infection Control	Safety & infection control measures in lab/clinical settings (incl. HAIs)
11	Patient Safety	Adverse events occurring in clinical settings and ensure patients' safety, The Swiss Cheese Model
12	Forensic Medicine & Toxicology	Introduction to Forensic Medicine, personal identity

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Learning objectives/ Course content**	**Instructional strategies**	**Assessment Tools**
Cell Injury, Cell death & Adaptations	● Correlate the mechanism of different types of pathological cellular adaptations with the micro and macroscopic structure ● Critically analyzing the pathological basis of apoptosis ● Compare different types of necrosis ● Relate the genetic aspects of aging with its current theories ● Correlate ischemic changes to its morphology ● Relate different types of cellular accumulations with the pathological basis of disease ● Differentiate between reversible and irreversible cell injury. (definition, causes, morphology, mechanism, examples)	● Introduction to Pathology ● Cellular Adaptations, Cell Injury and Cell Death ● Cell Adaptation. Hypertrophy, Hyperplasia, Atrophy, Metaplasia ● Definition, causes, Ischemic and hypoxic injury, Free radical injury, Chemical injury ● Morphology of reversible and irreversible injury, Necrosis and its types ● Reversible injury - Fatty Change, Pigmentation and Calcification ● Necrosis & Apoptosis	LGIS, SGD, Donut Round Technique , CBL	MCQs/ SEQs/VIVA
Inflammation and Repair	Differentiate between acute and chronic inflammation on the basis of etiology, pathogenesis and morphology ● Summarize the systemic effects of inflammation with the variants of tissue repair	● Acute and Chronic Inflammation & Repair ● Definition, Type of inflammation, events of acute inflammation ● Chemical mediators of inflammation ● Chronic inflammation – events, cells and sequelae	LGIS, SGD,	MCQs/ SEQs/VIVA

Theme/Topic	Learning Outcomes By the end of this module, students will be able to:		Learning objectives/ Course content	Instructional strategies
Practical	● Identify following on slides 1. Hyperplasia and Atrophy 2. Metaplasia and Hydropic change 3. Fatty Change 4. Intracellular accumulations (Melanin, Hemosiderin) 5. Coagulative necrosis and caseous necrosis 6. Acute inflammation 7. Chronic inflammation		Practical	OSPE
MICROBIOLOGY				
General Microbiology	● Correlate the basic morphological, ● physiological and genetic characteristics of bacteria with their pathological mechanism ● Match the members of normal flora with their appropriate anatomical ● locations ● Appraise the concept and different methods of sterilization and disinfection in detail. ● Apply the methods of health Professional and patient safety in laboratory and clinical settings. (infection control measures)	● Introduction to micro ● Bacterial anatomy ● Bacterial physiology & growth ● Bacterial genetics ● Classification of bacteria ● Bacterial pathogenesis ● Sterilization ● Disinfection ● Infection prevention and control ● Normal flora ● Bacterial and viral vaccines ● Specimen collection for microbiological processing's ● Lab diagnosis of infectious diseases	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Bacteriology	Correlate the important morphological and pathogenic characteristics, laboratory diagnosis, prevention and virulence factors produced by gram positive cocci with their clinical significance	● Staphylococcus ● Streptococcus	LGIS, SGD	MCQs/ SEQs/VIVA

Theme/Topic	Learning Outcomes ● By the end of this module, students will be able to:	● **Learning objectives/ Course content**	**Instructional strategies**	
Virology	● Differentiate classes of viruses ● Outline the Lab diagnosis ● Paraphrase the pathogenesis of diseases caused by viruses	● Classification of viruses with common examples prevalent in Pakistan ● Principles of lab diagnosis of viral diseases	LGIS, SGD	MCQs/ SEQs/VIVA
Parasitology	Classify various Parasites on the basis of their site of pathogenesis	● Introduction to parasitology ● Classification of parasites	LGIS, SGD	MCQs/ SEQs/VIVA
Mycology	Classify various fungi on the basis of their morphology and human diseases	● Introduction to Mycology ● Classification of fungi	LGIS, SGD	MCQs/ SEQs/VIVA
Practicals	● Examine the microscope and discuss its different parts ● Perform steps of hand hygiene ● Perform donning/ doffing of PPE ● Perform Gram Stain and interpret its results ● Perform ZN stain and interpret its results ● Identify the different types of Culture Media (Blood agar, chocolate agar, Mac Conkey agar, CLED agar, LJ media) and interpret the associated bacterial growth		Practical	OSPE

Pharmacology				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
General Pharmacology	● Interpret the different pharmacokinetic patterns, their clinical significance and factors affecting these parameters. ● Correlate the concept of molecular mechanisms to the therapeutics. ● Identify the genetic principles in drug disposition ● Recognize the rational use of drugs	● Pharmacology: Introduction, Historical overview ● Branches/division of Pharmacology, ● Sources & active principles of drugs ● Routes of administration of drugs ● Pharmacokinetics: ● Absorption of drugs: processes ● Factors modifying drug absorption ● Distribution &plasma protein binding of drugs ● Biotransformation of drugs ● Factors modifying biotransformatio n ● Bioavailability: clinical significance & factors affecting ● Half-life of drugs: factors affecting &clinical significance ● Excretion of drugs: Drug clearance ● Pharmacodynamics: Mechanism of drug action ● Factors modifying actions & doses of drugs Guideline for rational use of drugs	LGIS, SGD	MCQs/ SEQs/VIVA
Drugs acting on ANS	● Correlate the physiology of autonomic receptors with the therapeutic application	● A N S: Introduction ● Parasympathomimetic or cholinergic Drugs ● Anti-Cholinesterase, Myasthenia gravis ● Organophosphate poisoning &Oximes	LGIS, SGD	MCQs/ SEQs/VIVA

Theme/Topic	Learning Outcomes By the end of this module, students will be able to:	Course Content	Instructional strategies	Assessment Tools
		● Cholinergic blockers: Natural alkaloids, Comparison between Hyoscine & Atropine ● Catecholamines: Adrenaline., Nor adrenaline, Dopamine & Dobutamine ● Non Catecholamines: Ephedrine, Amphetamines α/β2 receptor agonists etc. ● Adrenergic Blockers: Alpha-receptor Blockers, Beta receptor Blockers ● Central Sympathoplegics ● Drug treatment of glaucoma		
AUTOCOIDS	● Rationalize the use of various Prostaglandins in different diseases	● Prostaglandins	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practical's	● Justify the advantages and disadvantages of different routes of administration **and dosage forms of drugs** ● Interpret and report the effects of drugs in rabbit's eye			OSPE

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Introduction to Forensic Medical Sciences	Describe the role of Forensic Medicine / Sciences in Crime detection, especially in crimes involving human life & body in national as well as international context.	Role of Forensic Medicine / Sciences in Crime detection, especially in crimes involving human life & body	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Personal Identity	• Distinguish between living and dead, decomposed and mutilated from burnt bodies, skeletal and fragmentary remains by using appropriate parameters of personal identity. • Use different techniques (Dentistry: Radiology, Neutron Activation Analysis etc.) and objective methods of (Osteometry, Dactyloscopy, DNA Technique, Super imposition photography etc.). • Determine the age, sex and race of an individual by various methods with their medico-legal aspects. • Critique on methods to trace evidence, Lockard's Principle of exchange and its medico- legal significance.	• Parameters of personal identity, methods of identifying living, dead, decomposed, mutilated and burnt bodies, and skeletal and fragmentary remains, • Special techniques (Dentistry: Radiology, Neutron Activation Analysis etc.), and objective methods of identification (Osteometry, Dactyloscopy, DNA Technique, Super imposition photography etc.). • Methods of determination of age, sex and race by various methods with their medico-legal aspects. • Methods to trace evidence, Locard's Principle of exchange and its medico-legal significance	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

COMMUNITY MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Foundation of public health	Discuss the importance of public health in medicine	• Introduction to public health • Identify history of public health • Evolution of public health as a scientific discipline • Future directions of public health	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Intro to Healthcare system in Pakistan	Differentiate different Sectors of health system and functioning	• Health care and health care system • Various levels of health care and referral mechanism	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Infectious disease epidemiology (common terms)	Interpret various terms used in communicating the information related to communicable disease	Introduction of various terms used in communicating the information related to communicable disease	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Dynamics of disease transmission	Identify basic links in the chain of transmission of infection	Dynamics of disease transmission • Source or reservoir • mode of transmission • susceptible host • Disease prevention and control	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

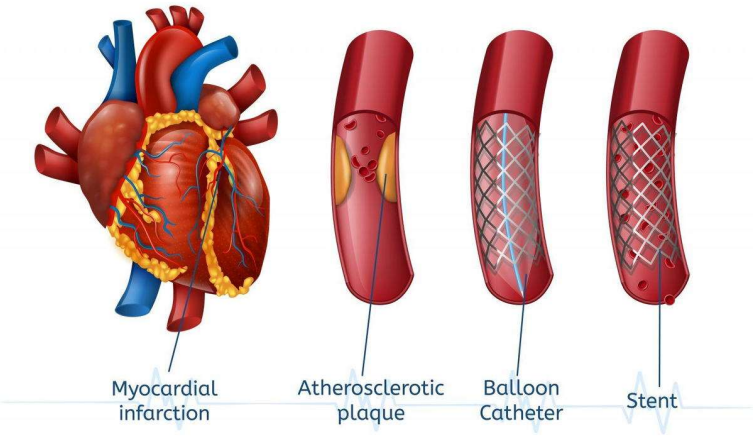
MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Introduction to Medicine	Receive the patients in medical clinics	● History taking ● General Physical Examination	CBL	Formative assessment
BLS	Follow the steps of BLS	BLS: Overview	CBL/ Video/Skill lab	Skill demonstration, direct observation of CPR skills, MCQS
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	Formative assessment
SURGERY				
Introduction to surgery	Receive the patients in surgical clinics	● History taking ● General Physical Examination	CBL	Formative assessment
Wound healing and tissue repair	How to approach a patient with different wounds	Steps of wound examination	CBL	Formative assessment
Procedures	Assist ● Antiseptic Dressing (10)		Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	Formative assessment

OBS & GYNAE				
Maternal Anatomy/Physiology in Pregnancy and Labor	● Revisit anatomy of pelvis ● Compare normal physiological changes of body systems in pregnant and non- pregnant patient. ● Compare the important effects in a pregnant woman of estrogen and progesterone and correlate their function ● Appraise the factors that are implicated in the onset of labour	● Anatomy of the pelvis ● Physiological changes in maternal systems during pregnancy	LGIS, PBL	Formative assessment
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Pre-Pregnancy Care	● Comprehend principles of pre- pregnancy care ● Demonstrate an understanding of genetic mode of inheritance and common structural abnormalities of fetuses	● Principles of pre- pregnancy care ● Genetic mode of inheritance and common structural abnormalities of fetuses resulting from abnormal development	LGIS,	Formative assessment
Antenatal Care	Comprehend principles of antenatal care and concept of preconception care	● Principles of antenatal care ● Concept of preconception care	LGIS,	Formative assessment

PAEDIATRICS				
Growth and development	● Recognize growth, development and maturation. ● Justify use tools for measuring growth and development. ● Identify the genetic, nutritional and environmental factors that can influence child growth and development.	● Developmental Milestones ● Anthropometry	LGIS,	Formative assessment

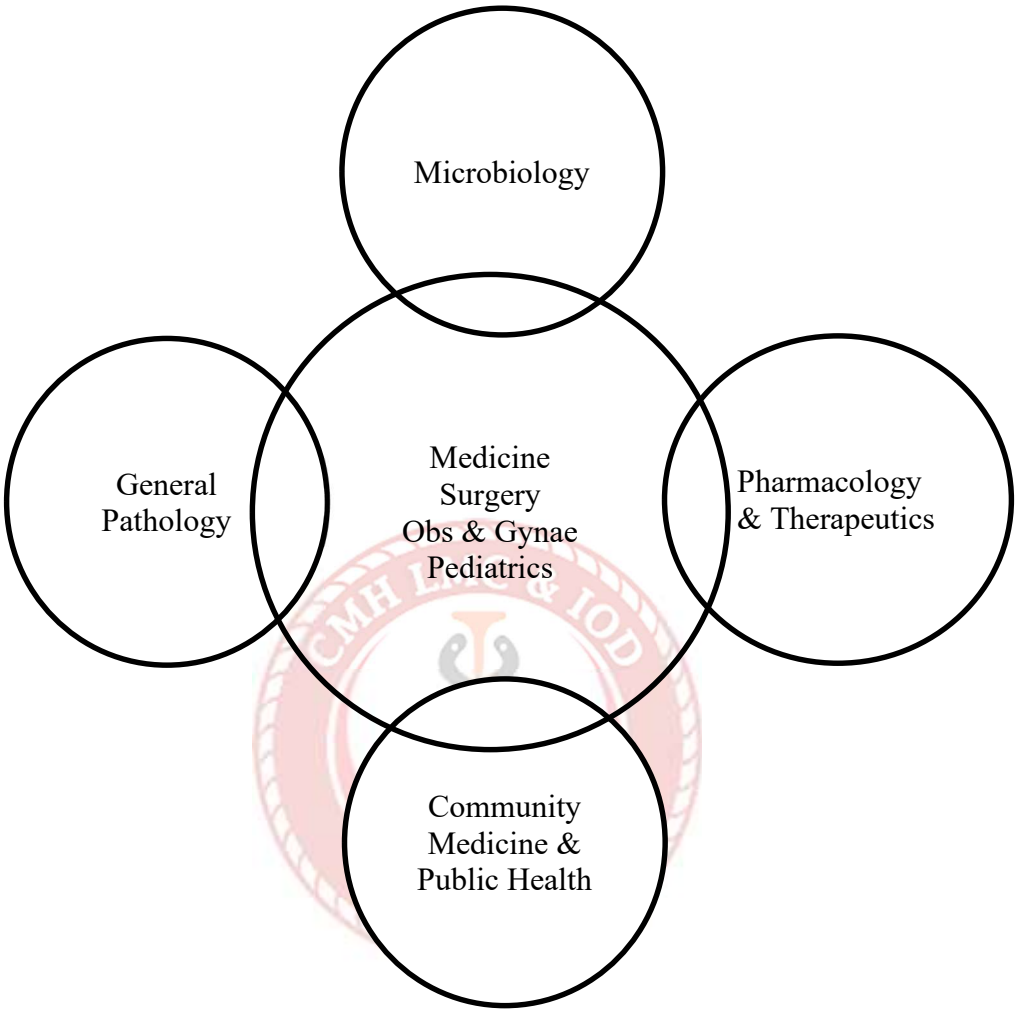
CONTENT OF BLOCK-VII , MODULE-XIV (CARDIOVASCULAR SYSTEM II)

MBBS YEAR – III
BLOCK – VII
MODULE – XIV
Cardiovascular System II
Duration: 04 weeks



Structured Summary of Module		
No.	**Disciplines**	**Course Content**
1	General Pathology	Hemodynamic disturbances (edema, congestion, thrombosis, embolism, infarction)
2	Microbiology	• Septicemia and its contribution in thromboembolic complications • Key pathogens causing infective endocarditis
3	Pharmacology & Therapeutics	Anticoagulants, antiplatelets, and thrombolytics. Drug selection for ischemic heart disease and hypertension. Pharmacotherapy for heart failure, arrhythmias, hyperlipidemia
4	Medicine	Diagnosis of DVT, PE, MI via clinical signs and lab (D-dimer, troponins)
5	Surgery	Evaluation of limb ischemia, gangrene, and varicose veins
6	Obs & Gynae	Thromboembolic risks in pregnancy/postpartum
7	Paediatrics	Hypercoagulability and thrombotic events (e.g., nephrotic syndrome)
8	Forensic Medicine & Toxicology	Thanatology and autopsy, Mechanical injuries, Firearm injuries, Blast injuries, Sexual offences / Reproduction

Integration of Disciplines in CVS II Module



Preamble

This module focuses on underlying pathology of various cardiac disorders along with their prevention and treatment options. Relevant topics of forensic medicine are taught side by side for better understanding of the students. Students will have opportunities to relate their knowledge through integrated sessions. A least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught CVS history taking and physical examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.
Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

LEARNING OUTCOMES

By the end of this module, students should be able to:

Cardiovascular System

1. Relate the pathophysiology of heart and vessels to its treatment modalities
2. Interpret various injuries and causes of death and relate them with their medicolegal aspects
3. Perform and interpret the effects of cardiac specific drugs on frog's heart.
4. Evaluate the effect of drugs on blood vessels of frogs
5. Demonstrate all steps of history taking and examination of cardiac patients in medical and surgical clinics

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Chest Pain
Shortness of breath
Pain and swelling in leg
Peripheral Edema

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to :	**Learning objectives/ Course content**	**Instructional strategies**	**Assessment Tools**
Hemodynamic disorders, Thromboembolism	● Assess the hemodynamic disorders including hyperemia, congestion and edema along with the pathogenesis and contributing factors (thrombosis and embolism).	● Edema, hyperemia & congestion ● Thrombosis ● Embolism ● Atherosclerosis	LGIS, SGDs	MCQs/ SAQS/VIVA
Infarction	● Describe the pathological factors involved in the process of infarction along with their types.	Infarction	LGIS, SGD, PBL	MCQs/ SAQs/VIVA
Practicals	1. Interpret report of lipid profile 2. Identify following on slides ● Hyperaemia/Congestion ● Coronary thrombus ● Atherosclerosis ● Myocardial Infarction			OSPE
MICROBIOLOGY				
Pathogens causing infections of CVS	Identify bacterial pathogens causing infections of cardiac system and relate them clinically	Overview of pathogens causing infections of CVS with emphasis on Infective endocarditis and Rheumatic heart disease	LGIS, SGD, PBL	MCQs/ SAQs/VIVA
Practicals	● Identify bacteria based on their biochemical reactions ○ Motility ○ Coagulase ○ Catalase test ○ Oxidase test ○ Sugar sets (Indole, TSI, Nitrate reduction and Urease)			OSPE

PHARMACOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Drugs acting on CVS	Relate the pathophysiology of heart and vessels to its treatment modalities	● Physiology of CVS (Rev) ● Cardiotonic drugs: Management of cardiotoxicity of cardiac glycosides ● Antihypertensive drugs ● Drug Treatment of IHD ● Antiarrhythmic drugs	LGIS, SGD, PBL	MCQs/ SAQs/VIVA
PRACTICALS/SKILLS	● Perform and interpret the effects of cardiac specific drugs on frog's heart. ● Evaluate the effect of drugs on blood vessels of frogs. ● Justify the selection of priority drugs for certain indications of CVS and prescribe medicine accordingly			OSPE

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Thanatology	• Identify the causes, manner, mode, mechanisms, medicolegal aspects and indicators of death. • Correlate between the physicochemical changes occurring in various body tissues after death under different environmental conditions to the medico-legal aspects of sudden and unexpected deaths.	• Scientific concepts regarding death, medico-legal aspect of Brain death, Indicators of Death, medico-legal aspects of Sudden and unexpected deaths, causes, manner, mode and mechanisms of death. Physicochemical changes subsequent to death occurring in various body tissues and organs under various environmental conditions. • To write a Certification of death according to WHO guidelines • Autopsy: Types, objectives, rules, and techniques and describe procedure for post-mortem; Methods for Assessment of Fatal period and post-mortem interval. Post-mortem artefacts. Risks and Hazards of autopsy, and Autopsy Protocol. Procedure for selection and reservation, labelling and dispatch of Biological and non-biological materials for laboratory examination; and collect relevant samples.	LGIS, SGD, PBL	MCQs/ SAQs/VIVA

		Exhumation procedures, and its value and Limitations		

Theme/Topic	Learning Outcomes By the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment Tools
Mechanical Injuries	● Correlate the mechanisms of wound production to their medico-legal aspects. ● Identify different ammunit i ons ● Appraise the nomenclatur e, wound Ballistics and medico-legal aspects of mechanical injuries ● List and debate on the laws in relation to causing Bodily harm, Wounding and Homicide ● Distinguis h between ante-mortem and post-mortem wounds. ● Diagnose the manner of death (suicidal, homicidal and accidental)	● **Mecha n ical Injurie s :** o Mechanism s of wound production, classificatio n of wounds, wounds produced by conventiona l weapons and their medico-legal aspects. Firearms, Ammunition, Classification, Nomenclature, wound Ballistics and medico-legal aspects. o Medico-Legal Considerati ons: Suicide, homicide and accident.	LGIS, SGD, PBL	MCQs/ SAQs/VIVA

	• Classify wounds • Relate the mechanisms of wound production to their medico-legal aspects. • Classify firearm injuries. • Identify different ammunitions • Appraise the nomenclature, wound Ballistics and medico-legal aspects of mechanical injuries • List and debate on the laws in relation to causing Bodily harm, Wounding and Homicide. • Distinguish between ante-mortem and post- mortem wounds. Diagnose the manner of death (suicidal, homicidal and accidental)			

Blast injuries	Interpret injuries caused by ● blast	**Blast injuries.** Recognition and ● interpretation of injuries caused by blast	LGIS, SGD, PBL	MCQs/ SAQs/VIVA

COMMUNITY MEDICINE				
Risk factors and prevention	Relate different risk factors to particular patients and general population Estimate the extent of damage to individuals and community in terms of morbidity and mortality burden ● Suggest preventive measures for these diseases ● in individuals and populations at-risk	● Coronary heart disease ● Hypertension ● Stroke ● Rheumatic heart disease	LGIS, SGD, PBL	MCQs/ SAQs/VIVA

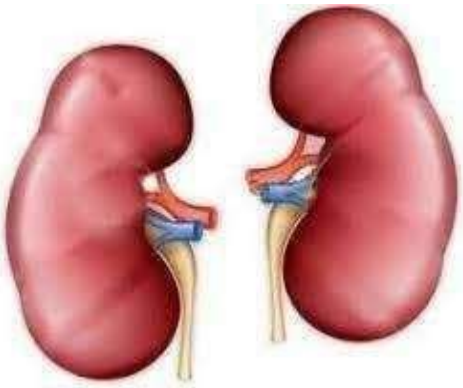
MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
ECG	Identify common errors in ECG recording.	● Provide physiological basis of the rate, rhythm and axis of ECG. ● Compare normal and abnormal ECG.	Lecture/ CBL and bedside teaching	Formative assessment
CAD	● Evaluate patient presenting with angina on the basis of history, examination and investigations ● Enlist key management steps	● Identify common symptoms/signs of angina ● Perform relevant examination ● Interpret relevant investigations ● Enlist key management steps	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	CBD,OSCE, VIVA,MCQS

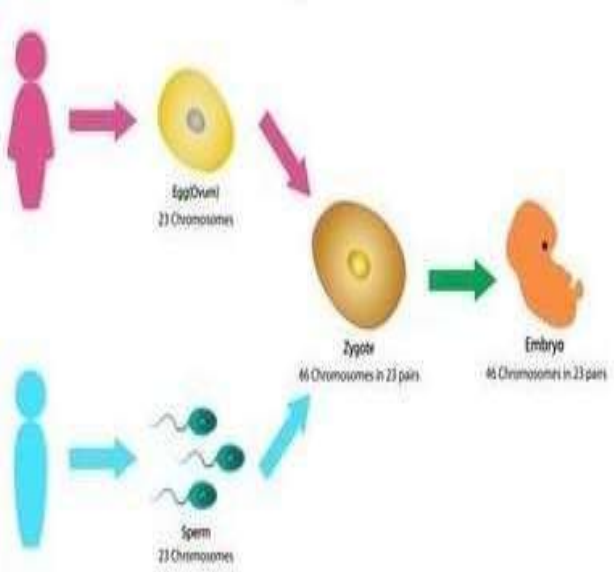
CCF	• Relate presentation of CCF with its pathophysiological basis • Diagnose Heart failure. • List complications of Heart failure • Analyze the Pharmacological management in the treatment of Heart Failure	Congestive Cardiac failure	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
PE/DVT	• Elaborate, epidemiology and risk factors and preventive measures for pulmonary embolism/DVT • Recognize the clinical features and presenting symptoms of pulmonary embolism/DVT	Clinical presentation, history taking and relevant examination of patient	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedures	Perform ECG		Bed side teaching	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant Disorders		Bed side teaching / CBL	Formative assessment
SURGERY				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	• **Course Content**	**Instructional strategies**	**Assessment Tools**
DVT	Receive the patients in surgical clinics	• History taking • General Physical Examination	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Varicose veins	Take detailed history and perform examination of patient with varicose veins	Causes, clinic a l presentation, history taking and relevant examination of patient with varicose veins	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

Gangrene	● Differentiate between dry and wet gangrene ● List the principles of diagnosis and its management	Gangrene ● Definition ● Types ● Pathophysiology ● Clinical features ● Diagnosis	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
		Management principles		
Ward visits	Take history and perform examination of the patients with relevant Disorders		Bed side teaching / CBL	Formative assessment
OBS & GYNAE				
Hypertension in pregnancy	Categorize a hypertensive patient in pregnancy according to standard classification	Hypertension in pregnancy	LGIS, CBL	Formative assessment
Preeclampsia	Recognize the pathogenesis and its clinical features	Preeclampsia	LGIS, CBL	Formative assessment
PAEDIATRICS				
Theme/Topic	**Learning Outcomes** ● By the end of this module, student will be able to:	**● Course Content**	**Instructional strategies**	**Assessment Tools**
Congenital and Acquired Heart Disease	● Differentiate between cyanotic and acyanotic heart diseases ● Correlate pathophysiology of pediatric CCF to its clinical presentation. ● Identify common pediatric cardiac failure syndromes ● Discuss the treatment of CCF ● Identify clinical features of rheumatic heart disease	● Acyanotic Heart Diseases ● Cyanotic heart disease ● Tetralogy of Fallot ● CCF in children ● Rheumatic Heart Disease	LGIS, CBL	Formative assessment

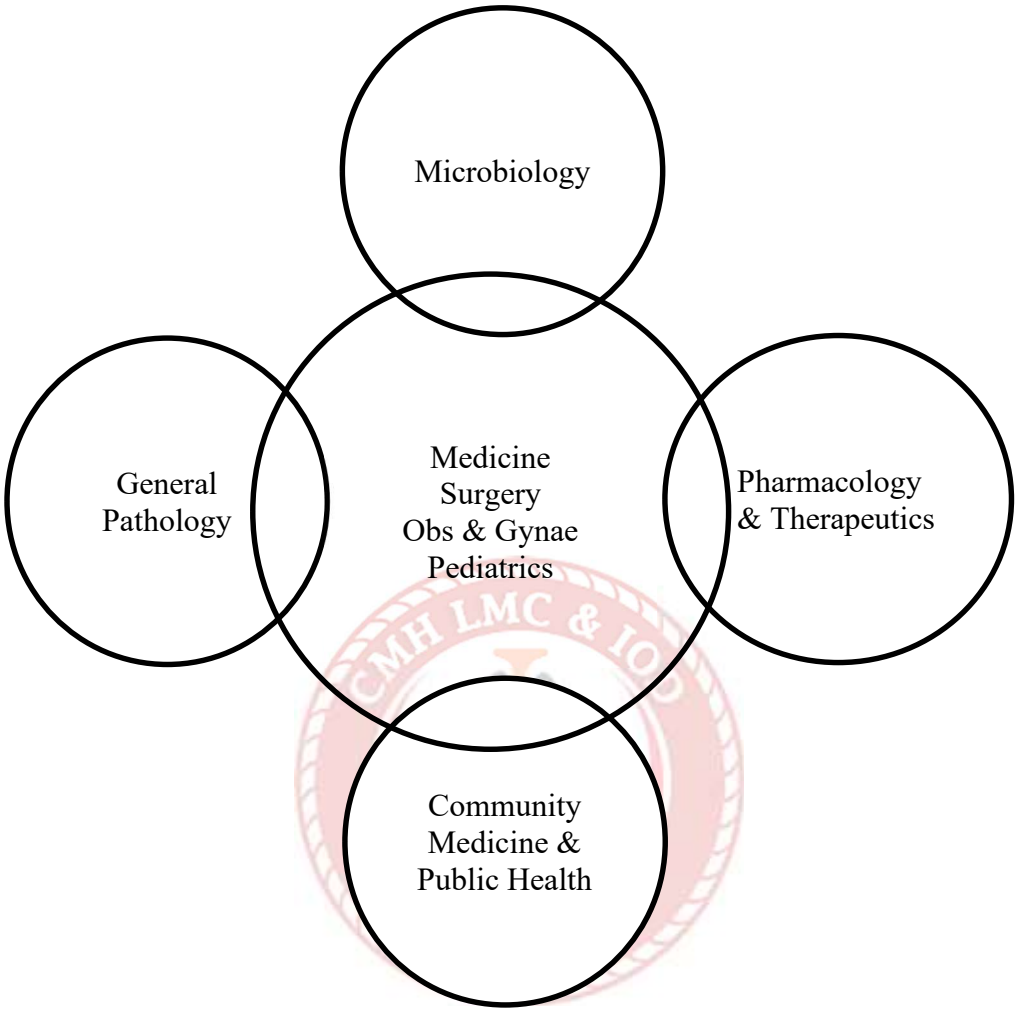
CONTENT OF BLOCK-VII , MODULE-XV (GENITOURINARY SYSTEM)

MBBS YEAR – III
BLOCK – VII
MODULE - XV
Genitourinary System
Duration: 02 weeks





Integration of Disciplines in Genitourinary System Module



Structured Summary of Module		
No.	**Disciplines**	**Course Content**
1	General Pathology	Shock
2	Microbiology	Bacterial pathogens causing infections of renal system
3	Pharmacology & Therapeutics	Diuretics
4	Medicine	• Types of shock using vitals and labs • BLS and resuscitation protocols
5	Surgery	Hypovolemic shock in trauma cases
6	Obs & Gynae	PPH-related and eclamptic shock
7	Paediatrics	Pediatric septic shock and fluid loss
8	Forensic Medicine & Toxicology	Thanatology and autopsy

Preamble

This module focuses on underlying pathology of various renal disorders along with their prevention and treatment options. Relevant topics of forensic medicine are taught side by side for better understanding of the students. Students will have opportunities to relate their knowledge through integrated sessions. A least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught renal history taking and physical examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

LEARNING OUTCOMES

By the end of this module, students should be able to:

Cardiovascular System

1. Relate the pathology of infarction/ shock for understanding different clinical disorders
2. Identify bacterial pathogens causing infections of renal system and relate them clinically
3. Differentiate between therapeutic application of different diuretics
4. Assess the sexual offences and relate with their medicolegal aspects
5. Interpret Urine D/R and Urine C/S
6. Demonstrate all steps of history taking and examination of renal patients in medical and surgical clinics

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Fever with burning micturition
Shock

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to :	**Learning objectives/ Course content**	**Instructional strategies**	**Assessment Tools**
Shock	Describe the pathological factors involved in the process of shock along with their types.	● Shock ● Hemorrhage	LGIS ,SGD , TBL	MCQs/ SEQs/VIVA
Practicals	Identify following slide: ● Calcification			
MICROBIOLOGY				
Microbiology	Identify bacterial pathogens causing infections of renal system and relate them clinically	Overview of pathogens causing infections of genitourinary system ● GPC causing UTIs ● Enterobacteriacae ● E. Coli ● Syphilis ● Neisseria gonorrheae ● Trichomonas vaginalis ● Chlamydia trichomatis	LGIS ,SGD , TBL	MCQs/ SEQs/VIVA
Practicals	● Identify Anaerobic jars used for growth of anaerobic bacteria ● Observe steps in management of spill of fluids/blood ● Interpret Urine D/R and Urine C/S ● Perform and interpret Pregnancy test			OSPE

PHARMACOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Diuretics	● Recollect the anatomical physiological basis of renal system. ● Differentiate between therapeutic applications of different diuretics	Diuretics: Thiazide, loop, K sparing, osmotic, Carbonic Anhydrase	LGIS , SGD, TBL	MCQs/ SEQs/VIVA
PRACTICALS/SKILLS	● Justify the selection of priority drugs for certain indications of renal system and prescribe medicine accordingly			OSPE
FORENSIC MEDICINE				
Sexual Offences /Reproduction	● Assess the sexual offences and relate it to relevant Sections of Law (Zina and Hudood Ordinance) ● Differentiate between natural and unnatural sexual offences ● Address the causes of common sexual perversion ● Distinguish between Impotence, Virginity, Pregnancy and criminal acts during delivery (their medico-legal aspects, examination procedure and reporting)	● Sexual Offences and Relevant Sections of Law (Zina and Hudood Ordinance) ○ Natural and unnatural sexual offences ○ Medical examination of victim and assailants, collection of specific specimens. ○ Common sexual perversions and their cause. ○ approach to Impotence, determination of Virginity, Pregnancy and criminal processes during delivery, their medico-legal aspects, examination	LGIS, practical, CBL	**Sexual Offences /Reproduction**

	● Appraise the procedure of performing clinical l examination of victim and assailant in case of sexual offense, collect specific specimens and write a required certification. ● Appraise the relevant sections of law, Medico-legal aspects. applicable to miscarriage; and be able to. ● Crime Against New- Born, Infants and Child. ● identify infanticide and criminal and non- accidental violence or abuse to a newborn, infant or child.	procedure and reporting. o Miscarriage: o Crime Against New- Born, Infants and Child. Infanticide and criminal and non-accidental violence or abuse to a newborn, infant or child		

SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Fluid & Electrolyte replacement therapy	Justify the use of fluid & electrolyte replacement therapy	Fluid & Electrolyte replacement therapy	LGIS/ CBL/TBL / SP/ Real Patient/ Video clips	Formative assessment
Urinary tract infection	Recognize different causes of UTI on the basis of presentation and investigation	Causes, clinical presentation, history taking and relevant examination of patient	LGIS/ CBL/TBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedure	Assist Foley's Catheterization (10)		Real Patient/ Video clips	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bedside teaching/ CBL	Formative assessment

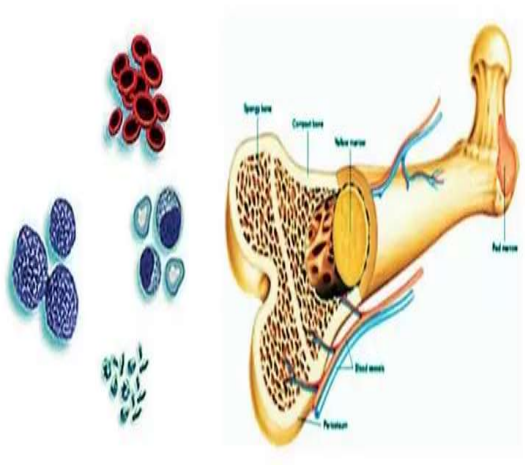
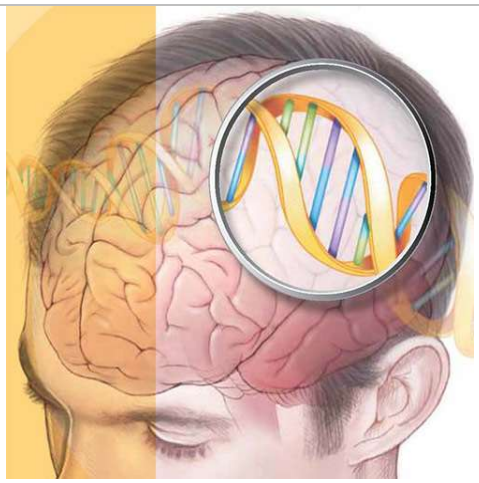
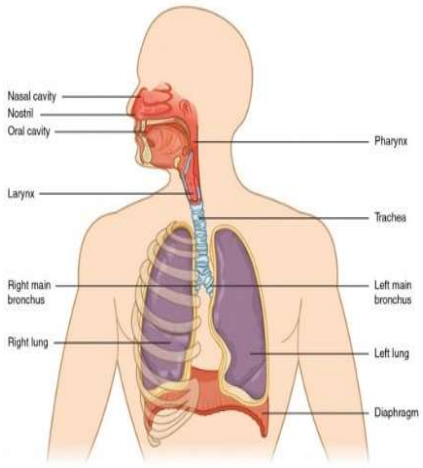
MEDICINE				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Septic shock,	Differentiate between types of shocks on the basis of pathogenesis and etiology	Septic shock, Cardiogenic shock	Lecture/ CBL/TBL/SP/ Real Patient/ Video clips	Formative assessment
Cardiogenic shock				
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	Formative assessment
PAEDIATRICS				
Renal Diseases	• Differentiate between nephrotic and nephritic syndromes	Nephrotic and nephritic Syndrome	LGIS/ CBL/TBL/SP/ Real Patient/ Video clips	Formative assessment

OBS & GYNAE				
Eclampsia	• Compare the principles of management of pre-eclampsia with chronic essential hypertension. • Critically appraise the drugs used in the management of pre-eclampsia • Identify the maternal and fetal complications of pre-eclampsia and eclampsia	Eclampsia	LGIS/ CBL//SP/ OMP/ Video clips	Formative assessment
Sexually transmitted infections	Appraise the management of sexually transmitted infections and sexual dysfunction disorders	• Sexually transmitted infections • Sexual dysfunction disorders	LGIS/ CBL/PBL/SP/ Real Patient/ Video clips	Formative assessment

BLOCK VIII

BLOCK VIII (Overview) – Blood, Brain & Breathing

Modules in this Block

		
Hematology & Immunology (03 weeks)	**Genetics & Neurosciences (03 weeks)**	**Respiratory System (03 weeks)**

Preamble

This block develops your understanding of blood and immune disorders, diseases of the nervous system, and respiratory illnesses commonly encountered in clinical practice.
Research Methodology and Behavioral Sciences continue as longitudinal themes.

Aim

To enable students to apply theoretical knowledge of hematological, neurological, genetic, and respiratory disorders to real clinical scenarios using case-based learning, integrated teaching, and supervised clinical exposure, preparing them for subsequent clinical training and practice.

Learning Outcomes

Domain	Competency Area	Specific Learning Outcomes
Knowledge	Explain	• Common anemias, leukemias & bleeding disorders
		• Stroke, seizures, headache & movement disorders
	Understand	• Immune system diseases & hemoparasites (malaria, leishmania)
		• Genetic disorders and inheritance patterns
		• Asthma, COPD, pneumonia & tuberculosis
Clinical Skills	History Taking	• Pallor, bleeding, fever
		• Headache, fits, weakness, altered consciousness
		• Cough, breathlessness, chest pain
	Examination Skills	• Hematology-focused examination
		• CNS examination
		• Respiratory system examination
	Investigations & Interpretation	• CBC & blood films

		• Malaria slides
		• Chest examination findings
Professional Skills	Practical Skills	• Proper hand hygiene
		• PPE use
	Ethics & Communication	• Patient safety & infection control
		• Communication with patients & attendants
	Professionalism	• Teamwork in wards

Teaching & Learning Methods


Small Group Discussions


Large Group Interactive Session


Skill Lab


Bedside Teaching


Self-Directed Learning

How you will be assessed

- **End-of-block theory exam** – MCQs & SEQs
- **Formative assessment** – class tests, ward work, skills, logbook
- **Continuous internal assessment** (as per institutional policy)
- **OSCE / OSPE stations** – Respiratory exam, Neurological exam

Tips for Success:

✓ Master general pathology early – it helps in better conceptual understanding of every system
✓ Practice CVS examination weekly
✓ Start learning ECG interpretation from week 1
✓ Study pharmacology alongside pathology
✓ Don't neglect forensic medicine topics
✓ Keep your logbook updated from day one

Learning resources – Block VIII

Pathology & Microbiology

Same Robbins + Levinson + Jawetz set (focus on anemia, leukemia, infections, TB)
Sketchy Microbiology (TB, malaria)
WebPath (blood disorders, lung pathology)

Pharmacology

High-yield Areas
Hematinics
Anticoagulants & antiplatelets
Antiepileptics
Anti-Parkinson drugs
CNS sedatives & antipsychotics
Bronchodilators & inhaled steroids
Antitubercular drugs
Antimalarials
Same core + digital resources as Block VII

Behavioral Sciences

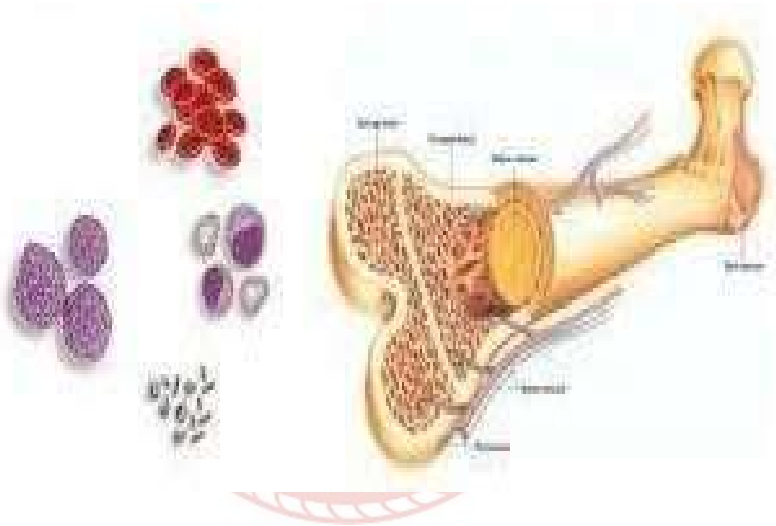
Core Textbook
Rana MH, Rana RZ, Mustafa M – *Handbook of Behavioral Sciences*, 3rd ed
Communication & Counselling
Silverman – *Skills for Communicating with Patients*
Egan – *The Skilled Helper*
Rollnick & Miller – *Motivational Interviewing in Health Care*
Buckman – *How to Break Bad News*
Psychiatry & Psychosocial Care
Kaplan & Sadock – *Synopsis of Psychiatry*
Oxford Textbook of Psychiatry
WHO mhGAP Guide
Digital Learning
BMJ Learning – Communication skills
Coursera – Doctor–patient communication
OpenWHO – Mental health & psychosocial support
Stanford Empathy Program
Harvard empathy modules
MedEdPORTAL psychiatry cases

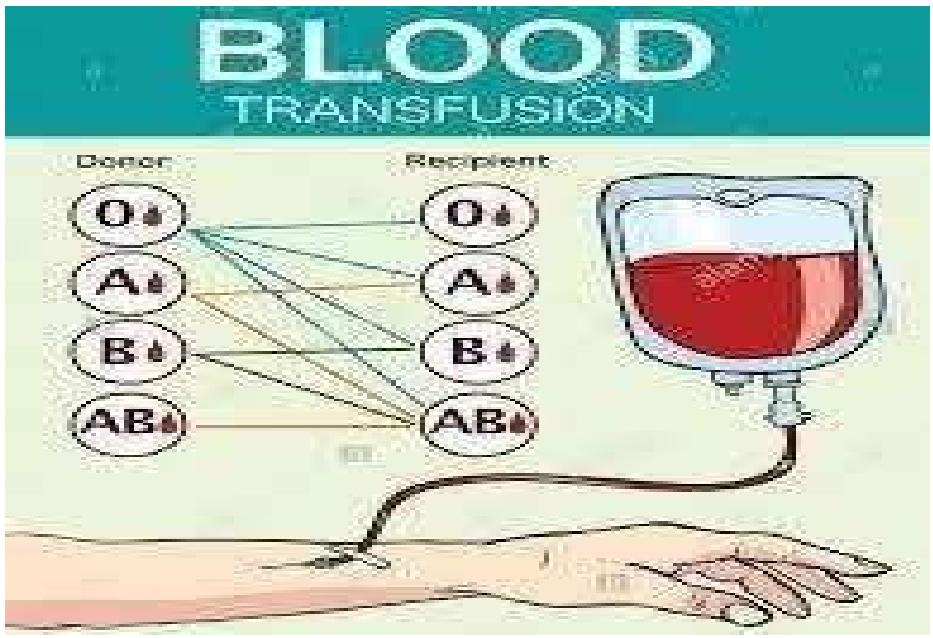
Community Medicine

Same Park + Shah + Maxcy resources

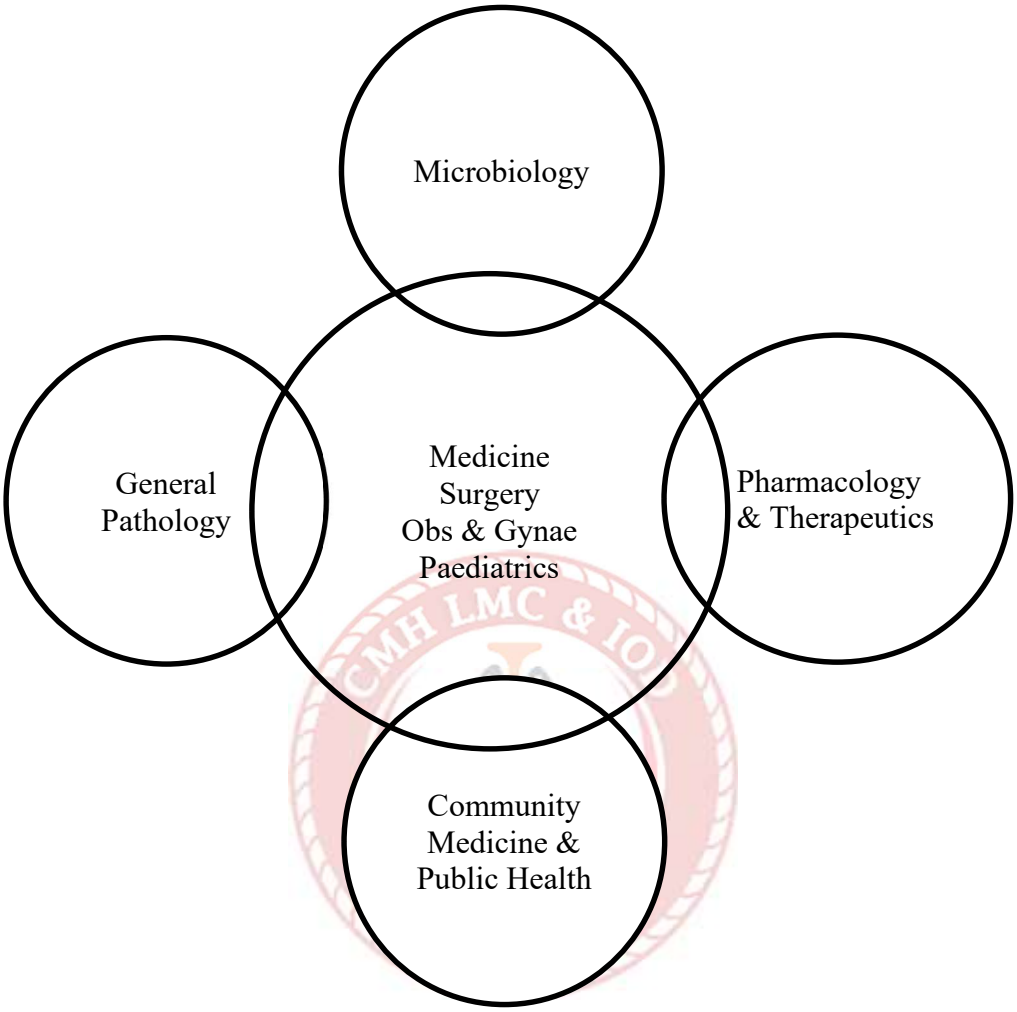
CONTENT OF BLOCK-VIII , MODULE-XVI (Hematology & Immunology Module)

MBBS YEAR - III
BLOCK – VIII
MODULE - XVI
Hematology & Immunology Module
Duration: 03 weeks





Integration of Disciplines in Hematology & Immunology Module



Preamble

The Hematology module of spiral II for 3rd Year MBBS has been designed to provide an insight of basic concepts required for diagnosis, and outlining the management plan of common disorders of blood and its components. The Hematology module learning objectives take into consideration previously acquired pertinent knowledge in Blood module of MBBS first year. This module encompasses the integration amongst various disciplines like Pathology, Pharmacology, Microbiology and clinical subjects. Students will have opportunities to relate their knowledge through integrated sessions. At least one integrated session in a week will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught history taking and relevant examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.
Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Aim

This module will enable students to relate their theoretical learning about haematology through case-based learning, interactive Lectures, integrated sessions and apply this knowledge in relevant clinical scenarios encountered in subsequent years of training and practice

Learning Outcomes:

At the end of this module, students will be able to:

1. Relate the basic pathology of immune system for understanding different clinical disorders
2. Discuss various hemoparasites and their clinical significance
3. Justify the use of drugs in different hematology disorders
4. Comprehending medicolegal importance of biological specimens and toxicology
5. Demonstrate all steps of history taking and examination of patients presenting with haem and immune disorders in medical and surgical clinics

Structured Summary of Module		
No.	**Disciplines**	**Course Content**
1	General Pathology	Normal and pathological immune mechanisms including hypersensitivity, autoimmunity, immunodeficiency, HLA compatibility, and graft rejection
2	Microbiology	Hemoparasite infections (e.g., Plasmodia, Leishmania, Toxoplasma, Trypanosomes) and viral hemorrhagic fevers
3	Pharmacology & Therapeutics	Drug treatment for anemia, malaria, pharmacotherapy of gout and rheumatoid arthritis, immunostimulants including probiotics, immunosuppressants, vaccines and sera, heavy metal poisoning and chelating agents
4	Community Medicine & Public Health	• Risk factors and preventive strategies of anemia and other blood disorders • Concept of general immunology • Vaccination strategies for vaccine-preventable diseases along with EPI

5	Medicine	• Anemia • Rash/allergies • Diagnosis of malaria/dengue on the basis of history and examination • Autoimmune diseases
6	Surgery	• Protocols to use blood products safely perioperatively • Transfusion reactions
7	Obs & Gynae	• Anemia in pregnancy
8	Pediatrics	• Anemia in children • Hyperbilirubinemias in neonates
9	Forensic Medicine & Toxicology	• Biological specimens, general toxicology

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Pallor (anemia)
Bleeding disorders
Itching and rash

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Learning objectives/ Course content**	**Instructional strategies**	**Assessment Tools**
Diseases of immune system	● Categorize and evaluate the components of normal immune system along with various pathological immune responses ● Evaluate the autoimmune diseases with various types of immunodeficient syndromes	● Immune system – Basic concepts, Cells of immune system & Immunoglobulins ● Hypersensitivity I & II ● Hypersensitivity III & IV ● HLA system and Histocompatibility antigen ● Tissue transplantation, Tolerance and autoimmunity	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Amyloidosis	● Discuss etiology, pathogenesis and morphology of Amyloidosis	● Amyloidosis	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practical's	Interpret blood CP	● Blood CP ● Amyloidosis	Practical	
MICROBIOLOGY				
Microbiology	Discuss various hemoparasites and their clinical significance	Overview of pathogens causing infections of blood & immune system ● Hemoparasites ● Plasmodia ● Leishmania ● Toxoplasma/ Trypanosomes ● Dengue ● Congo Hemorrhagic fever	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practical's	Identify the following slides ● Malarial parasites ● LD bodies			OSPE

PHARMACOLOGY				
Theme/Block	**Learning Outcomes** At the end of this module, students will be able to	**Course Content**	**Instructional strategies**	**Assessment tools**
Blood	Justify the management plan of anemia, coagulation disorders and HIV by correlating it to the patho-physiological basis of disease	• Hematinics • Anticoagulants • Thrombolytic • Anti-platelets • Anti Hyperlipidemics	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
	Justify the use of immunostimulants including probiotics, immunosuppressants, vaccines and sera	• Immunopharmacology: o Immunostimulants including probiotics o Immunosuppressants o Vaccines and sera	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Anti-Malarial Drugs	Justify the use of Malaria	Anti-Malarial	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Miscellaneous Topics: • Heavy Metal Poisoning & Antidotes (Chelating Agents) • Drug – Drug interactions	Outline the essential pharmacological principles of toxicology.	• Heavy Metal Poisoning & Antidotes (Chelating Agents) • Drug – Drug interactions	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Drug T/M of Rheumatoid Arthritis	Justify the use of drugs in the treatment of gout	Drug T/M of Rheumatoid Arthritis	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
T/M of Gout	Justify the use of drugs in the treatment of gout	Drugs used in gout	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

PRACTICALS/ SKILLS	● Calculate different concentrations of drugs or solutions I ● Justify the selection of priority drugs for certain indications and prescribe medicine accordingly. ● Calculate different concentrations of drugs or solutions II.	OSPE

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Biological Specimens	● Appraise the forensic importance of biological specimens (Blood, Semen, Salvia, Vomitus, Breath, Urine, Hair). ● Collects, preserve, dispatch various human body specimens	● Forensic importance of biological specimens (Blood, Semen, Salvia, Vomitus, Breath, Urine, Hair). ● Method of their collection, preservation, dispatch and the common laboratory tests	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
General Toxicology	● Relate the cases of toxicology to its related laws ● Manage toxicological cases in acute and chronic exposure ● Interpret acute and chronic cases of poisoning in living and dead	● Scope of forensic aspects of toxicology. ● Common Toxicants in our environments and their abuse	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
COMMUNITY MEDICINE				
Leishmaniasis	Discuss group of protozoal diseases caused by Leishmania parasites	● Epidemiological determinants ● Mode of transmission ● Clinical features ● Control measures	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

Mosquito related diseases	Discuss group of Mosquito related diseases; Dengue, Malaria	• Epidemiological determinants, Mode of Transmission, Clinical features and Control measures of these diseases	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Anemia	• Relate different risk factors to particular patients and general population • Estimate the extent of damage to individuals and communities in terms of morbidity and mortality burden • Suggest preventive measures for these diseases in individuals and populations at-risk	• Anemia ○ General population ○ Pregnancy ○ Childhood • Types of anemia • Hidden hunger	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
General Immunology	• Explain immunology & its components • Describe pre-requisites of vaccination including cold chain, hazards, contra indications & precautions	• Immunizing agents • The susceptible host; (active and passive • immunization, • chemoprophylaxis) • EPI schedule • Herd immunity • Cold chain • Adverse effects following ➢ immunization • and its investigation	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

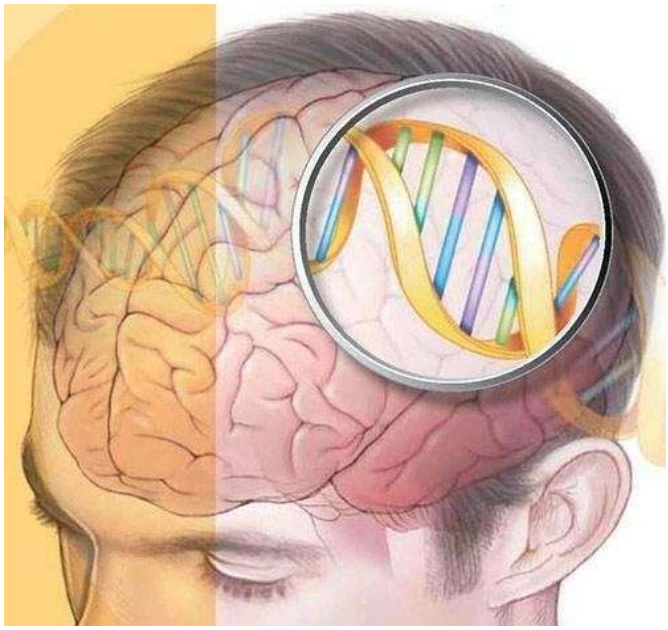
SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Hazards of blood transfusion reaction	Assess the patient for transfusion and its reactions	Transfusion reaction	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
IV cannulation	a. Demonstrate correct method of I/V Cannulation b. Perform under direct supervision ● Intravenous Line (10)	• Enlist the equipment needed for the procedure. • Demonstrate the skill proficiently • Identify the correct sites for I/V cannulation	Real Patient/ Skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
MEDICINE				
Anemia	Differentiate between various types of anemia	Types of anemia	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Bleeding disorders	Differentiate between various types of bleeding disorders	Types of bleeding disorders		
Allergic reactions	● Relate the clinical presentation to its pathophysiology ● Enlist key management steps in emergency	● Angioedema ● HS reactions	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedures	● Observe and assist ● I/V lines/Fluids/Blood/Blood products ● Branula, CVP ● Bone marrow aspiration/Trephine		Real Patient/ skill lab	Formative assessment

Ward visits	Take history and perform examination of the patients with relevant disorders	Bed side teaching/ CBL	OSCE

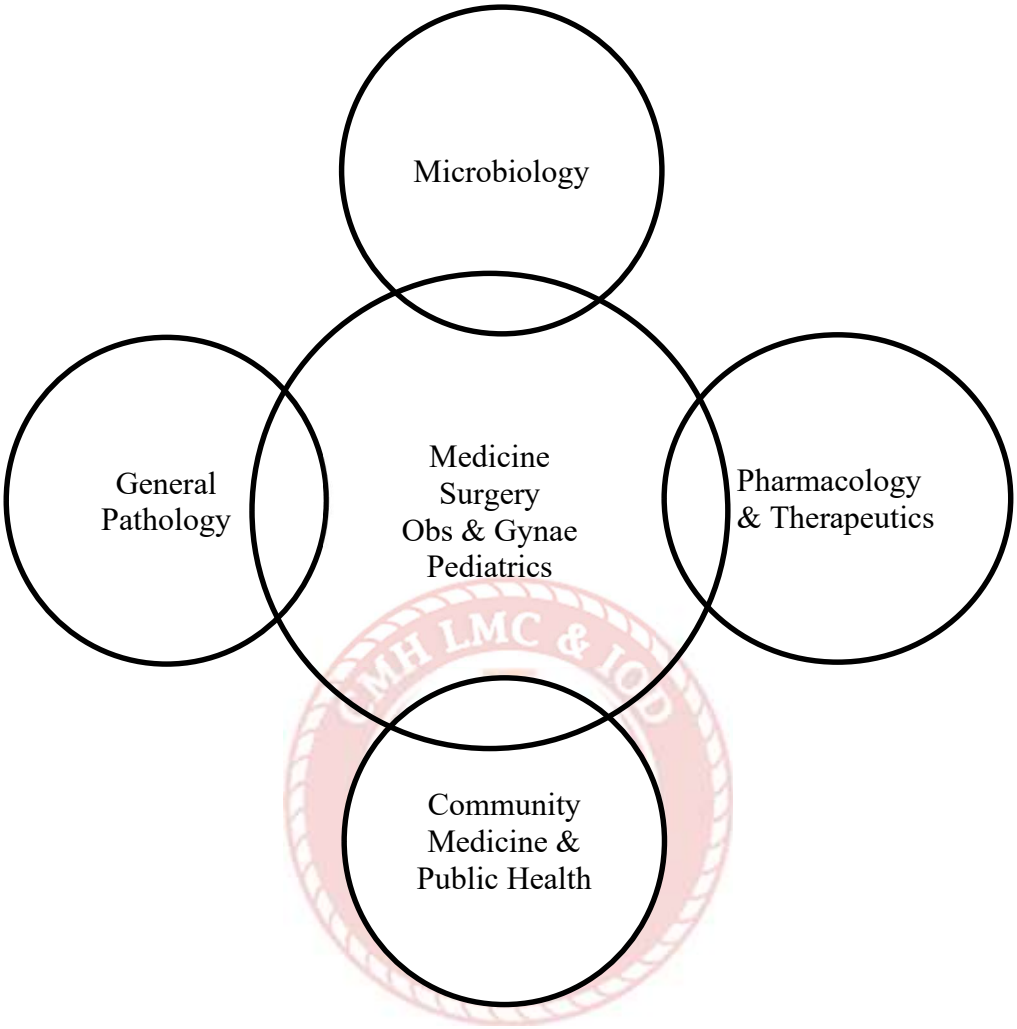
PAEDIATRICS				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Anemia	• Explain classification and causes of anemias in children • Discuss management of anemias in children	• IDA • Thalassemia • Hemolytic anemias • G6PD • Hereditary Spherocytosis	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Bleeding disorders	Classify bleeding disorders in children	• Bleeding disorders	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
OBS & GYNAE				
Anemia in pregnancy	• Discuss effects of anemia on maternal and fetal outcome • Manage anemic women on the basis of relevant investigations	• Anemia • Effects of anemia • Management of anemia	LGIS/ CBL/PBL/ SP/Real Patient/Video clips	Formative assessment

CONTENT OF BLOCK-VIII, MODULE-XVII (Genetics and Neurosciences module)

MBBS YEAR - III
BLOCK - VIII
MODULE - XVII
Genetics and Neurosciences module
Duration: 03 weeks



Integration of Disciplines in Genetics and Neurosciences module



Preamble

This module will provide students with a multidisciplinary approach to understanding the etiology, morphology and pathogenesis of genetics and neurological disorders with their treatment modalities. Students will have opportunities to relate their knowledge through integrated sessions. At least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught history taking of CNS complaints and relevant examinations in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Aim

This module will enable students to.

Learning Outcomes:

At the end of this module, students will be able to:

Apply their theoretical learning about genetics and neurosciences in relevant clinical scenarios encountered in subsequent years of training and practice

Structured Summary of Module		
No.	**Disciplines**	**Course Content**
1	General Pathology	• Principles of inheritance and the biochemical/molecular basis of Mendelian and multifactorial disorders, structural, receptor, and enzyme defects, common congenital anomalies and syndromic infections with their genetic basis, genetic counseling
2	Microbiology	• Key CNS pathogens
3	Pharmacology & Therapeutics	• Drugs acting on Central Nervous System
	Community Medicine & Public Health	• Strategies for genetic counselling • Risk factors of substance abuse/drug addiction along with its preventive strategies
4	Medicine	• Different types of tremors • Approach to a patient with seizures • Headache • Meningitis
5	Surgery	• Pre-operative evaluation for GA/LA • Common congenital cranial and spinal anomalies (e.g., spina bifida, meningocele, encephalocele) Craniofacial anomalies (e.g., cleft lip/palate)
6	Obs & Gynae	• Fits during pregnancy
7	Pediatrics	• Developmental delays due to inherited metabolic and neurogenetic disorders
8	Forensic Medicine & Toxicology	• Neurotics (somniferous, deliriants and inebriants), Forensic Psychiatry • Transportation and regional injuries

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Headache
Seizures
Genetic anomalies

ENETICS & NEUROSCIENCES				
Theme/Topic	**Learning Outcomes** At the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
GENERAL PATHOLOGY				
Genetic and pediatric disease	• Evaluate the nature and pattern of inheritance disorders involving single and multiple gene complexes. • Relate the congenital anomalies infections and syndrome.	• Introduction to genetics, biochemical & molecular basis of Mendelian disorder • Multifactorial disorders Cytogenetic disorders Diagnosis of genetic disorders • DISORDERS ASSOCIATED WITH DEFECTS IN STRUCTURAL PROTEINS a. Marfan b. Ehlers Danlos Syndrome • DISORDERS ASSOCIATED WITH DEFECTS IN RECEPTOR PROTEINS a. Familial Hypercholesterolemia • DISORDERS ASSOCIATED WITH DEFECTS IN ENZYMES a. Lysosomal Storage Diseases b. Glycogen Storage diseases • CHROMOSOMAL DISORDERS a. Normal karyotype & structural abnormalities of chromosomes Cytogenetic abnormalities involving autosome and sex chromosomes (Down syndrome,	LGIS, SGD, PBL	MCQs/SEQs/ VIVA

		Klinefelter syndrome and Turner syndrome) b. Diagnosis of genetics diseases		

MICROBIOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Infections of CNS	Describe the important morphological, pathogenic characteristics, laboratory diagnosis and virulence factors produced by pathogens causing infections of CNS	Overview of pathogens causing infections of CNS ● Meningitis ● Neisseria meningitides ● Hemophilus influenzas ● Listeria ● Cryptococcus neoformans ● Naegleria fowleri ● Encephalitis ● Poli o Rabies	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PHARMACOLOGY				
NSAIDs	Justify the use of NSAIDs in inflammation	● Non-Narcotic Analgesics Non-Steroidal Anti- Inflammatory drugs (NSAIDs)	LGIS/ SGD/PBL	MCQ/ SEQs/ OSPE / VIVA

Central Nervous System	● Correlate the patho-physiology of psychiatric illnesses to their management ● Differentiate between different centrally acting pharmacological agents (LA, GA, opioids) ● Justify the use of antiparkinsonian drugs on the basis of pathophysiology of the disease ● Analyze the effects of anti-epileptic drugs in relation to neuro- excitatory illnesses ● Rationalize the management of migraine	● Central Neurotransmissi on ● Antipsychotic drugs ● Anti-depressants ● Gen Anesthetics ● Local Anesthetics (LA)Drugs used in Parkinsonism ● Anti-epilepsy drugs ● Drug treatment of Migraine ● Aliphatic Alcohols ● Sedatives/ Anxiolytics & Hypnotics ● Opioids ● Drug Dependence Skeletal Muscle relaxants ● Non-Narcotic Analgesics	LGIS,	MCQs / SEQs/ / OSPE/ VIVA
	● Correlate the effects of substances of abuse (alcohol, opioids, heroin) on body to its plan for aversion therapy ● Appraise the pharmacological effects of sedative/Hypnotics Justify the use of Non- Narcotic Analgesics			
PRACTICALS/ SKILLS	● Interpret and report the effects of CNS stimulants/depressants on frog" ● Calculate different concentrations of drugs or solutions II ● Justify the selection of priority drugs for certain indications and prescribe medicine accordingly			OSPE

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Specific Poisons	Discuss the effects of specific poisons/drugs prevailing in our society along with medico-legal aspects	Study of following poisons/drugs: ● Alcohol ● Opiates, Opioids and other narcotics ● Hypnotics and Sedatives Stimulants (Cocaine), cannabis ● Venomous insects (Snakes)	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Forensic Psychiatry	● Distinguish between true and feigned insanity. ● Advise on procedure of restraint of the mentally ill. ● List limitations to civil and criminal responsibilities of mentally ill.	● True and feigned insanity ● Procedure of restraint of the mentally ill ● Limitations to civil and criminal responsibilities of mentally ill	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Regional Injuries, of Head	Differentiate among the various possible etiologies	Regional Injuries, of Head (Scalp, Skull, Brain) and Face,	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
(Scalp, Skull,	of Regional Injuries, of Head	Vertebral column and its		
Brain) and Face,	(Scalp, Skull, Brain) and	contents, Neck		
Vertebral	Face, Vertebral column and			
column and its	its contents, Neck			
contents, Neck				
COMMUNITY MEDICINE				
Communicable diseases	● Comprehend modes of disease transmission, interaction of agent host and environment in the	● Meningitis ● Polio ● Zoonotic infections (rabies, plague, Salmonellosis)	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

Theme/Topic	Learning Outcomes By the end of this module, students will be able to:	• Course Content	Instructional strategies	Assessment Tools
	pre & pathogenesis phases • Advice about preventive measures to control spread of infections	• Travel Medicine		
Prevention of Snake bite	Recommend preventive measures against different snake bites in particular situations.	• Snakebite Epidemiology, Personal protection and management • Types of snakes according to toxin production: hemolytic toxins, Musculo- toxins and neurotoxins • Signs/ symptoms of bite by different types of snakes	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
SURGERY				
Trauma and tissue response	Discuss the response of tissue to trauma	Response of tissue to trauma	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Head injury	Assess the patient with head injury and score as per GCS	• Clinical presentations and clinical findings of patients with head injury • Glasgow Coma Scale	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
MEDICINE				
Movement disorders /Tremors	• Differentiate between different types of tremor and movement disorders based on clinical features	• Parkinson's disease, essential tremor, Huntington's disease, tics, medication-induced dyskinesia	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

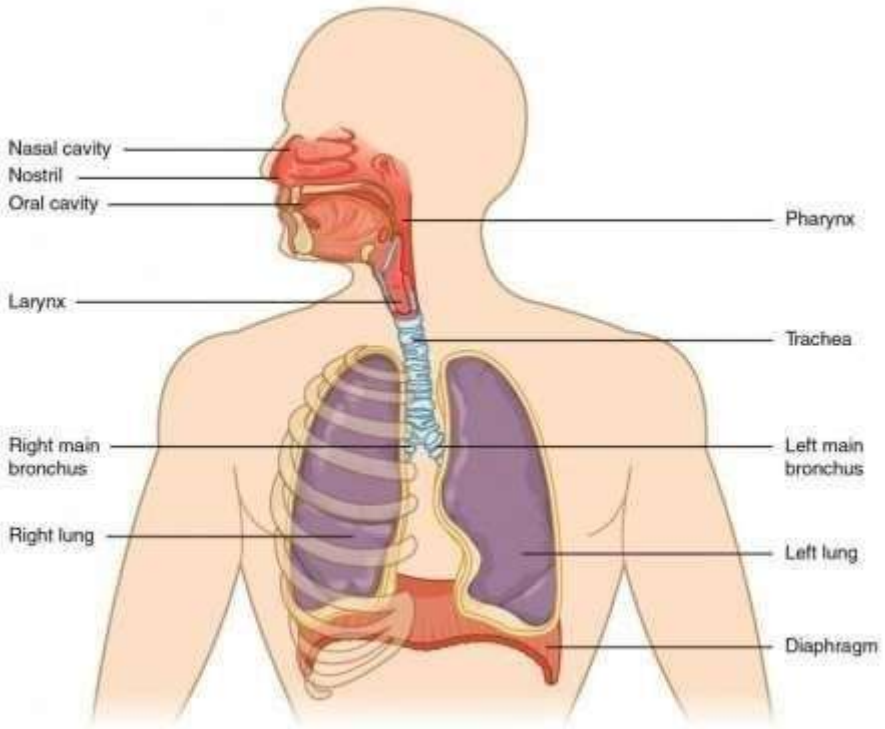
Topic/ Theme	• Learning outcomes	• Learning Objectives/Contents	Instructional strategies	Assessment tool
	• Outline the workup and management of patients with gait disorders	• Pharmacological treatment for relief of symptoms and its complications • Non-Pharmacological treatment including surgery and rehabilitation		
Headache	• Assess the patient with headache on the basis of etiology and pathophysiology • Differentiate between various types of headaches on the basis of clinical presentation • Elaborate pharmacologic treatment for acute condition	• Differential diagnosis of headache, Migraine, cluster, tension, analgesia- overuse, neuralgias, idiopathic intracranial hypertension, temporal arteritis • Presentations and clinical features of various types of headaches especially migraine • Etiologies & Pathogenesis of different types of headaches	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Seizure disorders	• Differentiate between different types of seizures on the basis of pathophysiology • Identify the cause and trigger factors associated with seizures • Outline the management of Status Epilepticus • List the investigation of a patient with suspected epilepsy • Outline the acute and long- term management of seizures	• Epilepsy • various seizure types including adult vs pediatric seizures • Status Epilepticus • Anticonvulsant therapy	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

Procedures	Observe and assist • Lumbar puncture	Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders	Bed side teaching/ CBL	OSCE

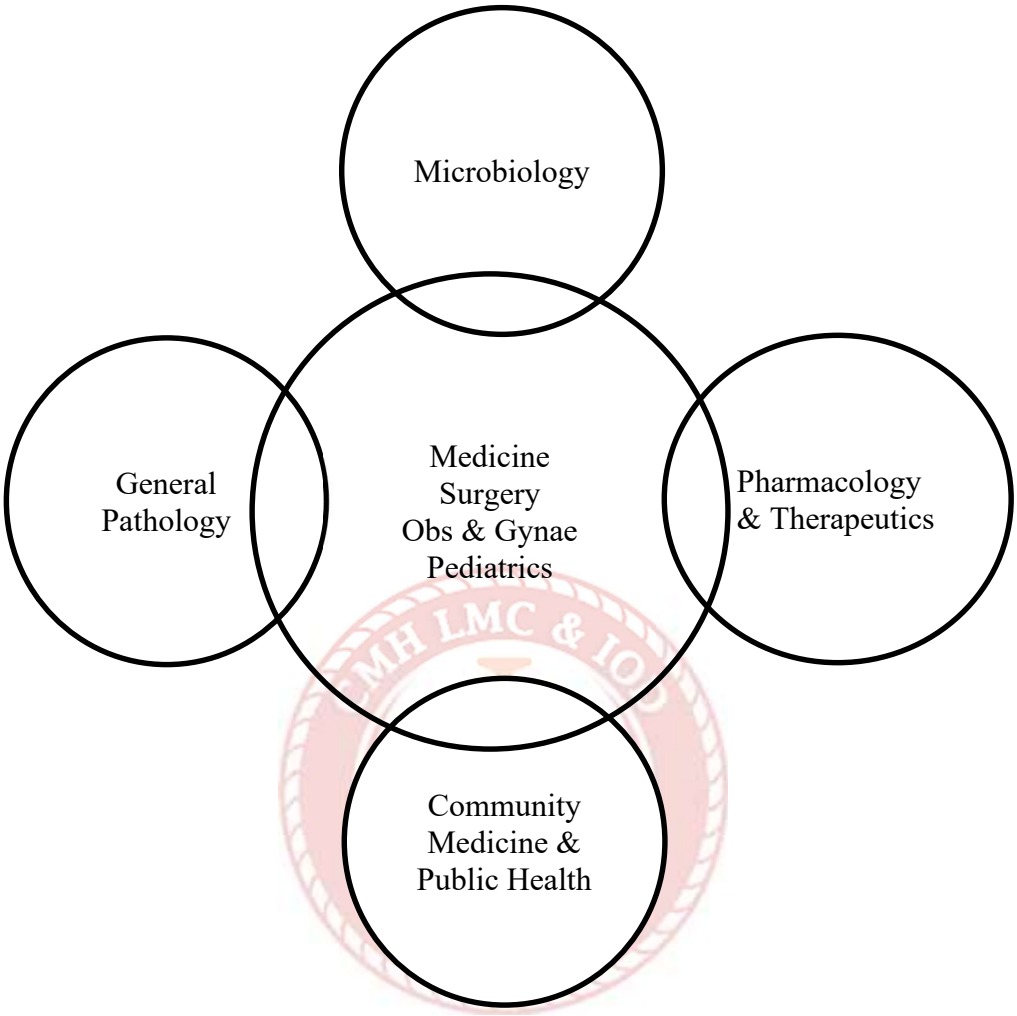
PAEDIATRICS				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional Strategies**	**Assessment tool**
Common genetic disorder/malformation	• Recall Patterns of inheritance • Diagnose Down Syndrome and common malformations	• Patterns of inheritance • Down syndrome Common genetic disorder/malformation	LGIS, CBL	Formative assessment
Meningitis	Recognize signs of meningitis	Meningitis	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
OBS & GYNAE				
Genetic counselling	Discuss the importance of prenatal counselling about genetic disorders	Importance of prenatal counselling about genetic disorders	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

CONTENT OF BLOCK-VIII , MODULE-XVIII (Respiratory System Module)

MBBS YEAR – III
BLOCK – VIII
MODULE – XVIII
Respiratory System Module
Duration: 03 weeks



Integration of Disciplines in CVS II Module



Preamble

The Respiratory module of spiral II for 3rd Year MBBS, has been designed to provide an insight of basic concepts regarding Respiratory disorders. The pathologies of Respiratory system will be discussed in detail. Moreover, this module encompasses the integration of Respiratory pathologies amongst various disciplines like Pathology, Pharmacology, Forensic Medicine, Community Medicine, Pulmonology, Surgery and radiology. Students will have opportunities to relate their knowledge through PBL sessions. At least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught history taking of respiratory complaints and chest examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Aim

This module will enable students to relate their theoretical learning about respiratory system through case-based learning, interactive Lectures, integrated sessions and

Learning Outcomes:

At the end of this module, student will be able to:

apply the knowledge of this module in relevant clinical scenarios encountered in subsequent years of training and practice

Structured Summary of Module		
No.	**Disciplines**	**Course Content**
1	General Pathology	• Pathological effects of alcohol, smoking, and radiation exposure on the human body
2	Microbiology	• Key bacterial pathogens of the upper and lower respiratory tract, common respiratory viruses, fungal respiratory infections, *Mycobacterium tuberculosis* and atypical mycobacteria
3	Pharmacology & Therapeutics	• Management plan for cough and obstructive pulmonary disorders (Asthma, COPD), anti-tuberculous therapy • Antihistamines, expectorants and antitussives
4	Community Medicine & Public Health	• Preventive strategies of respiratory diseases (communicable)

5	Medicine	• Approach to a patient with: ○ Cough, dyspnea, pulmonary tuberculosis, acute exacerbation of COPD • Safe and effective oxygen therapy, nebulization techniques, pleural fluid aspiration • Counselling on smoking cessation and alcohol abuse
6	Surgery	• Approach to a patient with chest injuries • Initial management of pneumothorax, hemothorax, and rib fractures
7	Obs & Gynae	• Asthma in pregnancy
8	Pediatrics	• Shortness of breath in children
9	Forensic Medicine & Toxicology	• Asphyxiants and corrosives, heat, cold, electrical injuries, asphyxial deaths

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Cough with sputum, and fever
Wheezy Chest
Shortness of breath

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Environmental diseases	Justify the environmental factors contributing to diseases and effects.	● Harmful effects of smoking and alcohol ● Harmful effects of smoking and radiation ● Occupational hazards	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practical's	Identify slides ● Granuloma			OSPE
MICROBIOLOGY				
Respiratory tract infections	Discuss various microorganisms causing upper and lower respiratory tract infections, their mode of transmission, lab diagnosis, prevention and clinical significance	Overview of pathogens causing infections of respiratory system ● Corynebacterium diphtheriae ● Bordetella Pertussis ● Streptococcus pneumoniae ● Bacillus anthracis ● Legionella, Mycoplasma ● Fungal Respiratory Infections - Aspergillus, Mucor	LGIS, practical, CBL	MCQs/ SEQs/ / OSPE / VIVA
PHARMACOLOGY				
Respiratory System	● Develop a management plan for cough and obstructive pulmonary disorders (Asthma, COPD) with justification ● Validate the use of antihistamines in various allergic disorders	● Expectorants & Antitussives ● Drugs used in Bronchial Asthma ● Antihistamines (H1 antagonists)	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PRACTICALS/SKILLS	Interpret the dose response curve ● Justify the selection of priority drugs for certain indications and prescribe medicine accordingly ● Bronchial Asthma ● Allergic Rhinitis			OSPE

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes**	**Course Content**	**Instructional strategies**	**Assessment Tools**
	By the end of this module, students will be able to:			
Specific Poisons	Discuss the effects of specific poisons/drugs prevailing in our society along with medico-legal aspects	Study of following poisons/drugs: ● Volatile Poisons and corrosives (Carbon monoxide, Hydrocarbons, Cyanides, Sulphuric Acid, Oxalic Acid, Carbolic Acid and Alkalis)	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Regional Injuries	Differentiate among the various possible etiologies of Regional Injuries of Chest	Regional Injuries, of Chest	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Heat, Cold, Electrical injuries	Compare and contrast Heat, Cold, Electrical injuries with emphasis on their medicolegal aspects.	Medicolegal aspects of Heat, Cold, Electrical injuries.	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Violent Deaths Due to Asphyxia	Recognize signs of violent death, mechanical, chemical and environmental asphyxia death and their medico legal implications.	Asphyxia	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

COMMUNITY MEDICINE				
Theme/Topic	**Learning Outcomes**	**Course Content**	**Instructional strategies**	**Assessment Tools**
Communicable diseases	• Comprehend modes of disease transmission, interaction of agent host and environment in the pre & pathogenesis phases • Advise about preventive measures to control spread of infections	• Measles, Mumps, Rubella, Diphtheria, Pertussis • Influenza, SARS, COVID-19 • Tuberculosis • Chickenpox • IMCI guidelines for pneumonia	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Chest trauma	Differentiate between different types of chest injuries based on mechanism of pathophysiology findings, and management.	• Chest Trauma • Broken ribs • Pneumothorax	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
Role of radiology in respiratory diseases	Identify common radiological abnormalities on chest x- rays	• Discuss the imaging techniques in respiratory disease • Describe the common radiological abnormalities on chest x-rays	CBL/ Video clips	Formative assessment

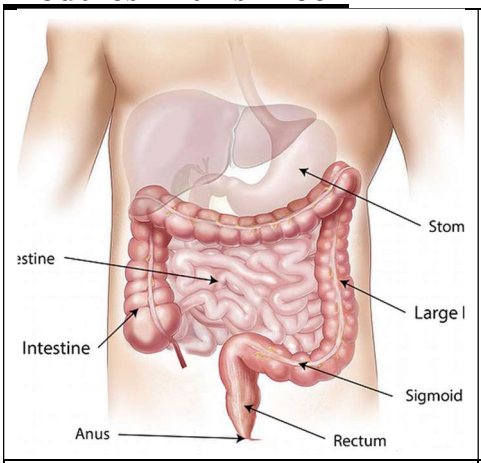
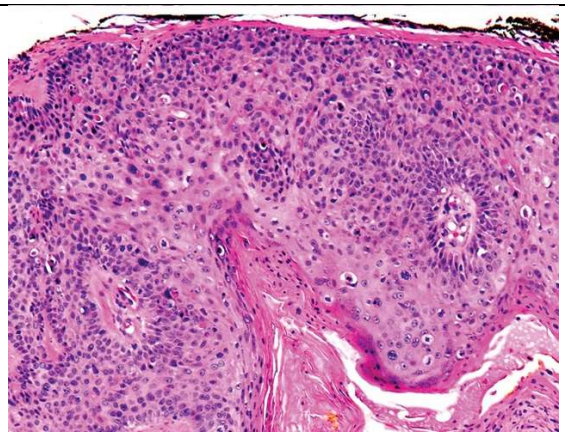
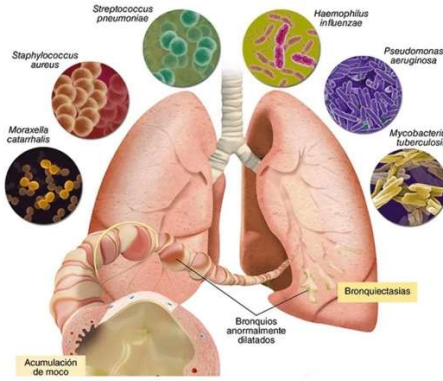
MEDICINE				
Theme/Topic	• **Learning Outcomes**	• **Course Content**	**Instructional strategies**	**Assessment Tools**
Cough	• Correlate clinical features to etiology in terms of congenital, traumatic, inflammatory, neoplastic or miscellaneous. • Discuss basic pharmacology of drugs being used in a medical unit	• Chronic cough • Dyspnea / shortness of breath • Fever with cough	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Dyspnea / shortness of breath	Identify various causes of dyspnea		CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Fever with cough	Recognize causes of fever with cough		CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedures	Observe and assist a. Endotracheal tube placement, Endotracheal suction/maintenance of airway/nursing on side b. Aspiration of fluids (Pleural) c. O2 therapy d. Nebulization e. ABGs		Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of patients with relevant disorders		Bed side teaching/ CBL	OSCE
OBS & GYNAE				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Respiratory diseases in pregnancy	Compare and contrast effects of pregnancy in general on women with respiratory diseases	Effects of pregnancy in general on women with respiratory diseases	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
PAEDIATRICS				

Respiratory diseases in children	Discuss the clinical presentation and common etiology of acute respiratory infections.	Acute respiratory infections	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

BLOCK IX

BLOCK IX (Overview) – Gut, Growth & Germs

Modules in this Block

		
Digestive System & Metabolism (03 weeks)	Multisystem Neoplasia(04 weeks)	Multisystem Infectious Diseases (04 weeks)

Preamble

This block equips you with the knowledge and clinical skills needed to manage common gastrointestinal diseases, cancers, and infectious diseases seen in local clinical practice.
You will integrate learning from Pathology, Microbiology, Pharmacology, Medicine, Surgery, Community Medicine, and Forensic Medicine through:

- Case-based & interactive lectures
- Integrated sessions (at least one per week)
- Ward rotations with supervised history taking and examination

Research Methodology and Behavioral Sciences continue as longitudinal themes.

Aim

To enable you to apply your theoretical knowledge of digestive system disorders, neoplasia, and infectious diseases to real clinical scenario and preparing you for subsequent years of training and practice.

Learning Outcomes

Domain	Competency Area	Specific Learning Outcomes
Knowledge	**Explain**	• Pathology of liver, pancreas & GI tract diseases
	Understand	• Metabolic disorders (diabetes, dyslipidemia)
		• Mechanisms of cancer development & spread
		• Major bacterial, viral & parasitic infections
		• Basics of chemotherapy & antimicrobial therapy
Clinical Skills	**History Taking**	• Abdominal pain, jaundice, vomiting, weight loss
		• Fever of unknown origin
		• Chronic diarrhea
	Examination Skills	• Abdominal examination
		• Liver & spleen examination
	Investigations & Interpretation	• LFTs
		• Blood glucose & HbA1c
		• Basic infection markers

Professional Skills	**Ethics & Communication**	• Breaking bad news sensitively
		• Infection control practices
		• Ethical decision making in cancer & terminal illness
		• Documentation & consent

Teaching & Learning Methods

How you will be assessed?

- **End-of-block theory exam** – MCQs & SEQs
- **Formative assessment** – class tests, ward work, skills, logbook
- **Continuous internal assessment** (as per institutional policy)
- **OSCE / OSPE stations** – CVS exam, ECG, urine analysis

Tips for success:

✓ Revise GI anatomy before pathology
✓ Make tables for cancers (site – risk factors – spread)
✓ Practice abdominal exam frequently
✓ Learn antibiotics in groups
✓ Don't memorize chemo blindly – understand mechanisms
✓ Use flowcharts for infection management

Learning Resources (Block IX)

Pathology

Core

Robbins & Cotran – tumors, GI pathology, liver & pancreas
Robbins Basic Pathology – revision
Online
Pathology Outlines (tumors, GI histology)
WebPath (cancer slides, liver pathology)

Microbiology

Jawetz – systemic infections
Levinson – HIV, TB, hepatitis, opportunistic infections
Sketchy Microbiology – high-yield organisms

Pharmacology

Focus Topics
Chemotherapy drugs
Antitubercular drugs
Antiretrovirals (HIV)
Antifungals
Antiparasitics
Anti-emetics
Drugs for acid-peptic disease
Drugs for hepatitis & liver disease
(Core + digital resources same as earlier blocks)

Forensic Medicine

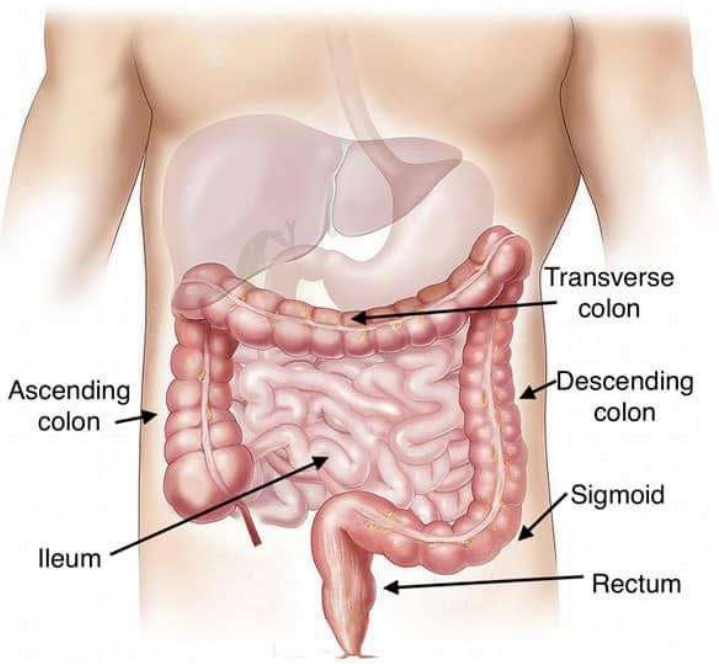
High relevance
Infectious deaths
Poisoning
Legal documentation
Chain of custody
Consent & negligence
(Same textbooks + digital resources as Block VII)

Community Medicine

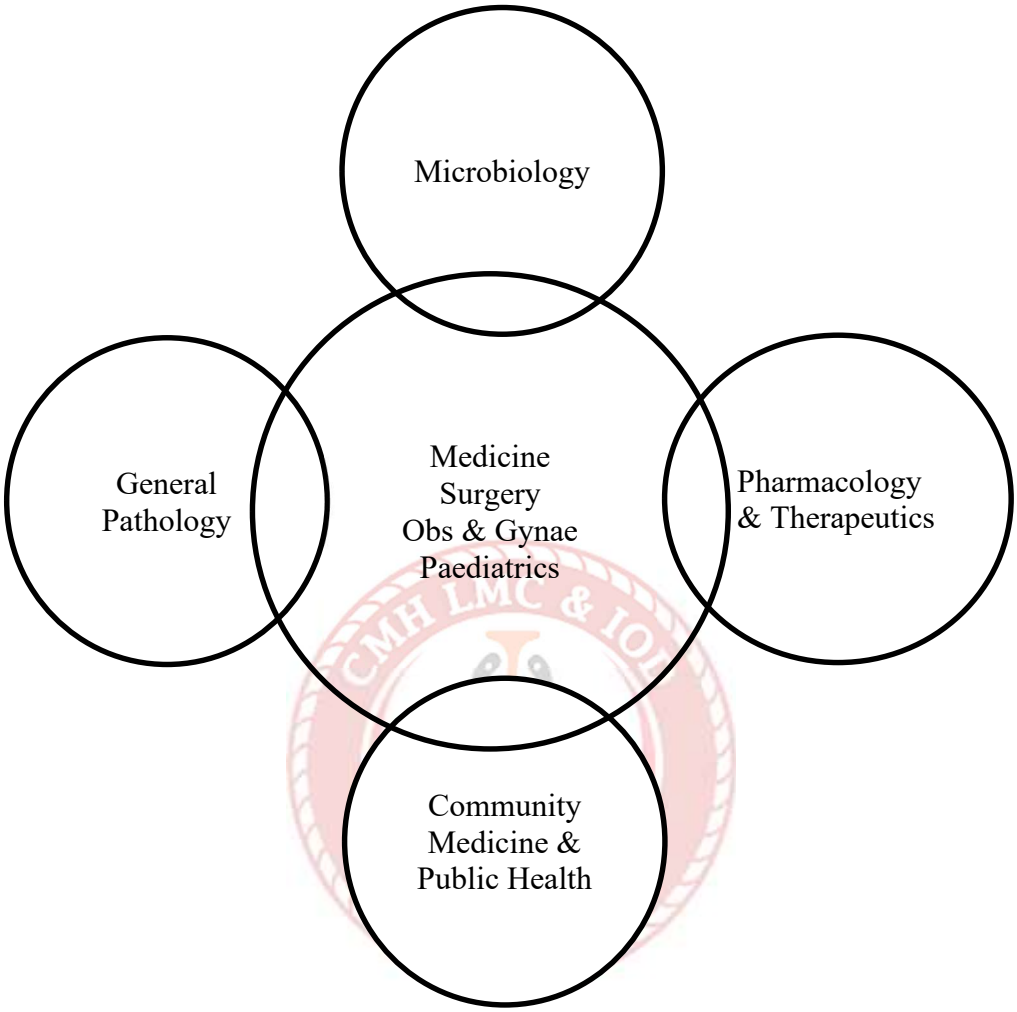
Strong relevance in Block IX
Epidemiology of cancer
Cancer screening programs
Infectious disease prevention
Vaccination
Outbreak investigation
TB control programs
(Textbooks: Park, Shah et al., Maxcy, Basic Epidemiology, Medical Statistics)

CONTENT OF BLOCK-IX, MODULE-XIX (Digestive System & Metabolism - II Module)

MBBS YEAR – III
BLOCK – IX
MODULE - XIX
Digestive System & Metabolism - II Module
Duration: 03 weeks



Integration of Disciplines in Digestive System & Metabolism - II Module



Preamble

This module aims to equip medical undergraduates with the essential knowledge and skills required for dealing with prevalent GI and metabolic disorders in the local context. This module will provide an integrative understanding of the etiology and pathogenesis of gastrointestinal tract, hepatobiliary and metabolic disorders with their treatment modalities. Forensic Medicine and Community Medicine are also taught in relevance where applicable. Students will have opportunities to relate their knowledge through integrated sessions. At least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught history taking of GI complaints and relevant examinations in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Aim

This module will enable students to relate their theoretical learning about digestive system through case- based learning, interactive Lectures, integrated sessions and apply this knowledge in relevant clinical scenarios encountered in subsequent years of training and practice.

Learning Outcomes:

At the end of this module, students will be able to:

• Apply knowledge of protein-energy malnutrition (PEM) (marasmus, kwashiorkor) and micronutrient deficiencies (vitamins A, D, K, C, B-complex, iron, iodine) to interpret biochemical, morphological, and systemic effects and plan appropriate diagnosis, prevention, and community-level interventions.

• Correlate the morphology, transmission, pathogenesis, lab diagnosis, and prevention of common enteric pathogens (Salmonella, Shigella, Vibrio, Campylobacter, Helicobacter pylori, Amoeba, Giardia, Cryptosporidium, helminths, viral hepatitis, Rotavirus) to develop evidence-based treatment and infection control strategies.

• Develop and justify rational pharmacologic management plans for peptic ulcer, vomiting, diarrhea, constipation, and viral hepatitis, including use of anti-amoebic and anthelminthic agents and appropriate antiviral regimens.

• Interpret the impact of alcohol abuse, obesity, and metabolic syndrome on digestive and metabolic health, including non-alcoholic fatty liver disease (NAFLD), gallstones, and type 2 diabetes, and integrate preventive, medical, and community strategies to manage these conditions.

• Demonstrate an evidence-based approach to clinical cases of diarrhea, dysentery, hepatitis, malnutrition, and metabolic disorders, including interpretation of relevant laboratory tests (stool exam, liver function tests, hepatitis serology) and formulation of patient education and follow-up plans.

• Propose community-based measures for safe water, sanitation, vaccination, food safety, and nutrition programs to reduce the burden of gastrointestinal and metabolic diseases in populations

Structured Summary of Module		
No.	**Disciplines**	**Course Content**
1	General Pathology	• Nutritional diseases
2	Microbiology	• Bacterial enteric pathogens, intestinal parasitic and protozoal infections, viral enteric infections
3	Pharmacology & Therapeutics	• Drugs acting on GIT, Endocrinology
4	Community Medicine & Public Health	• Preventive measures for foodborne GI infections (Typhoid, Cholera, Amoebiasis etc.) • Deworming, sanitation measures
5	Medicine	• Role of obesity and metabolic syndrome in non-alcoholic fatty liver disease (NAFLD), gallstones, and type 2 diabetes mellitus • Acute/Chronic diarrhea in adults • Approach to patient with pain abdomen • Approach to patient with jaundice
6	Surgery	• Obstructive jaundice or gallstones • Abdominal examination for acute abdomen • Principles of perioperative nutritional support • Diabetic foot
7	Obs & Gynae	• Gestational diabetes
8	Pediatrics	• Worm infestations
9	Forensic Medicine & Toxicology	• Study of following poisons/drugs: ○ Salicylates and paracetamol ○ Poisonous plants and animals (Datura, tobacco, snake) ○ Inorganic elements: arsenic, lead, mercury, phosphorus ○ Insecticides, aluminum phosphide, organophosphorus compounds

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Diarrhea
Upper GI bleeding
Abdominal pain

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Nutritional diseases	Justify the nutritional factors contributing in diseases and effects.	Nutritional factors contributing in diseases and effect	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
MICROBIOLOGY				
Pathogens causing infections of digestive system	Overview of pathogens causing infections of digestive system ● Diarrhea & Dysentery ● Salmonella ● Shigella ● Vibrio ● Amoeba ● Helicobacter / campylobacter ● Giardia/cryptosporidium m ● Nematodes I ● Nematodes II ● Trematodes ● Cestodes I ● Cestodes II ● Viral Hepatitis ● Rotavirus	Microorganisms causing GIT infections, their mode of transmission, lab diagnosis, prevention and clinical significance: ● Diarrhea & Dysentery ● Salmonella ● Shigella ● Vibrio ● Amoeba ● Helicobacter / campylobacter ● Giardia/cryptosporidium ● Nematodes I ● Nematodes II ● Trematodes ● Cestodes I ● Cestodes II ● Viral Hepatitis ● Rotavirus	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PRACTICALS/SKI LLS	● Identification of ova/ cyst in stool microscopy ● Interpret Stool RE report			OSPE
PHARMACOLOGY				
Drugs acting on GIT	Develop and justify the management plan of common disorders of gastrointestinal tract (peptic ulcer, vomiting, constipation, diarrhea and hepatitis).	● Anti-emetics ● Antidiarrheals ● Purgatives/laxative ● Drugs used in Peptic Ulcer	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Endocrinology	● Justify different treatment modalities	● Antidiabetic drugs ● Thyroid/Anti-thyroid drugs	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

Theme/Topic	**Learning Outcomes** At the end of this module, students will be able to:	● **Course Content**	**Instructional strategies**	**Assessment tools**
	for all types of diabetes mellitus ● Rationalize the therapeutic uses of thyroid/anti-thyroid drugs, osteoporosis and adrenal hormones in different disorders	● Adrenal Hormones ● Drug treatment of Osteoporosis		
	● Justify the clinical use of gonadal hormones in relation to reproductive physiology ● Rationalize different treatment modalities for infertility	● Gonadal Hormones: Estrogens & Progestins, Anabolic steroids ● Hormonal contraceptives ● Oxytocic drugs &Uterine Relaxants ● Drug used in treatment of Infertility	LGIS , SGD, PBL	MCQs/ SEQs/VIVA
PRACTICALS/ SKILLS	Justify the selection of priority drugs for certain indications and prescribe medicine accordingly ● Type I & II Diabetes ● Hyperthyroidism			OSPE
PRACTICALS/ SKILLS	● Interpret and report the effects of drugs on isolated rabbit's ileum ● Interpret the dose response curve on rabbits ileum ● Justify the selection of priority drugs for certain indications and prescribe medicine accordingly			OSPE

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** **By the end of Block II, the students will be able to:**	**Course Content**	**Instructional strategies**	**Assessment tools**
Specific Poisons	Discuss the effects of specific poisons/drugs prevailing in our society along with medico-legal aspects	Study of following poisons/drugs: ● Salicylates and paracetamol ● Poisonous Plants (Aconite, Belladonna, Hyoscyamus, Stramonium, Digitalis, Ergot, Mushrooms, Nux Vomica, Oleander, Tobacco) ● Inorganic elements, Antimony, Arsenic, lead, Mercury, Phosphorus Pesticides, Herbicides and Insecticides and others	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

COMMUNITY MEDICINE				
Non-Communicable diseases	• Relate different risk factors to particular patients and general population • Estimate the extent of damage to individuals and communities in terms of morbidity and mortality burden • Suggest preventive measures for these diseases in individuals and populations at-risk	Prevention of diabetes mellitus	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Communicable diseases	• Comprehend modes of disease transmission, interaction of agent host and environment in the pre & pathogenesis phases • Advice about preventive measures to control spread of infections	Prevention of typhoid, cholera, amoebiasis, Giardiasis, Parasitology, Diarrheal diseases	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

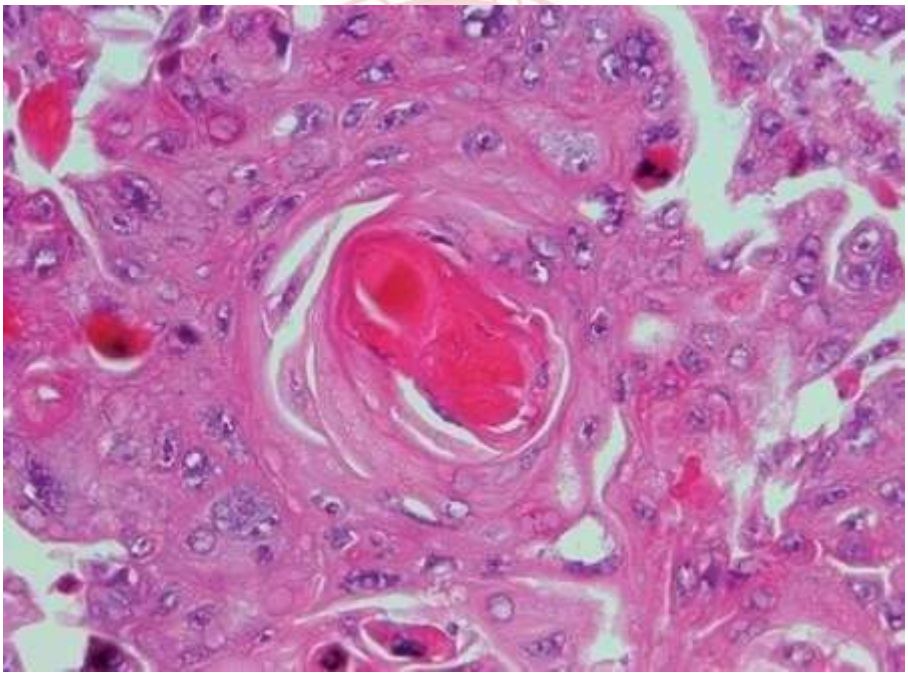
PRACTICALS/SKILLS
EARNING OUTCOMES
At the end of this block, students shall be able to
Perform Autopsy& Medicolegal Examinations Perform medico-legal Examination of injured Preserve and dispatch biological and other evidentiary material Examine mother and aborted material; and send aborted material in proper preservative for examination

SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Abdominal Injury	● Elaborate upon abdominal/ genitourinary injuries reference to causes, signs, symptoms diagnosis, management predisposing factor, complications and preventions ● Discuss various causes of abdominal injury/ genitourinary trauma ● Enumerate the most susceptible visceral organs in Abdominal Injury/ genitourinary trauma	● Clinical presentations and clinical findings of patients with head injury ● Glasgow Coma Scale	LGIS/CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Acute abdomen	● Describe the symptoms, signs, and differential diagnosis for patients presenting with an acute abdomen.	Causes, Clinical presentations and clinical findings of patient with Acute abdomen	LGIS/CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedures	Assist Passage of Nasogastric Tube (5)		Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bedside teaching/ CBL	OSCE
MEDICINE				
Enteric Fever	● Relate the clinical presentation of GI disorders with their etiology and pathogenesis ● Elaborate complications and Preventive measures of Enteric fever.	Enteric fever	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

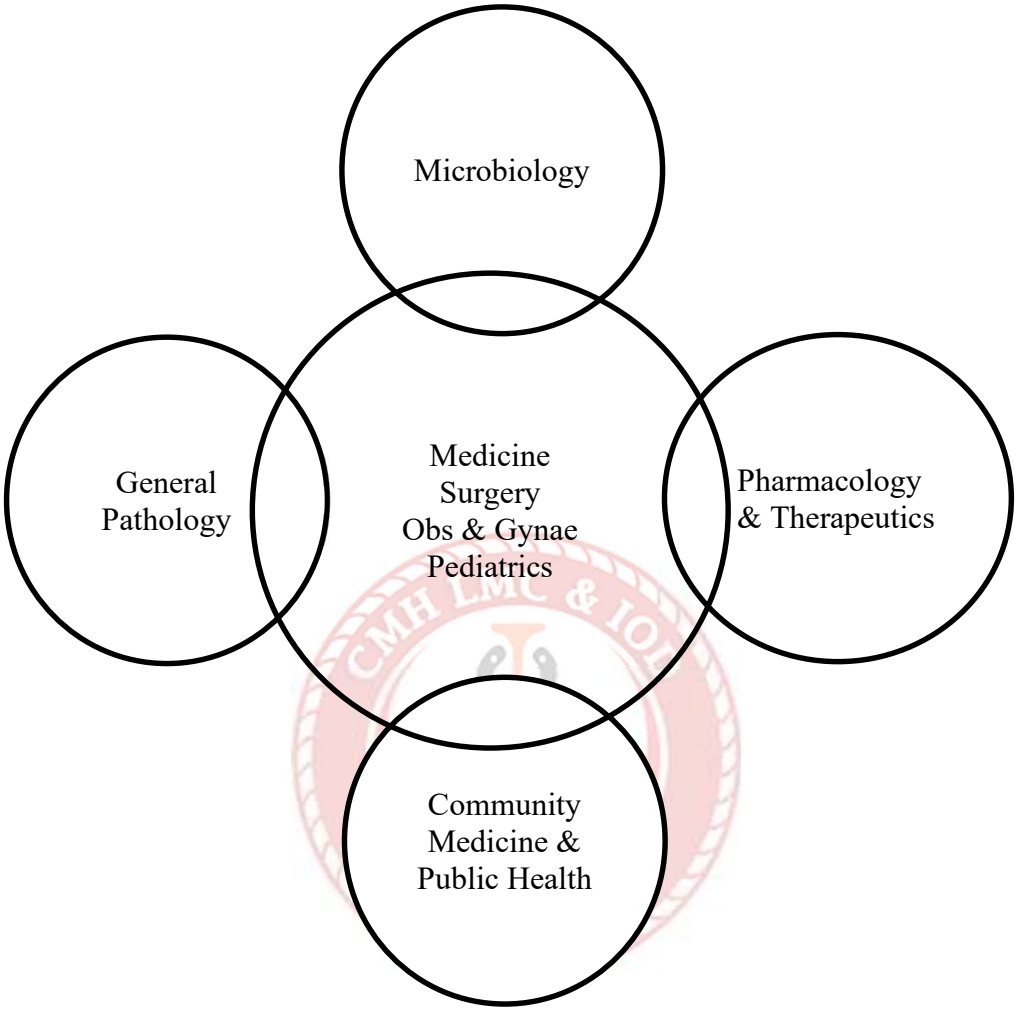
Diarrhea	Describe the symptoms, signs, and differential diagnosis for patients presenting with diarrhea	• GERD • IBD • Achalasia • APD • Acute gastroenteritis	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
		• Infectious diarrhea • Chronic diarrhea		
Procedures	Observe and assist • N/G passing and feeding. • Aspiration of fluids (Peritoneal) • Preparing patient for endoscopies, upper and lower GIT		Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bedside teaching / CBL	OSCE
OBS & GYNAE				
Acute Abdominopelvic pain	• Categorize the causes of acute onset of pelvic pain • Compare and contrast the signs and symptoms of ectopic pregnancy, ovarian cyst accident and first trimester d miscarriage • Appraise the medical and surgical methods of treatment of ectopic pregnancy	Diagnosis and management of acute abdominal pain due to: • Ectopic pregnancy • Ovarian cyst accident • first trimester d miscarriage • Principles of diagnosis and management of chronic pelvic pain	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
PAEDIATRICS				
Enteric Fever	• Relate the clinical presentation of GI disorders with their etiology and pathogenesis • Elaborate complications and Preventive measures of Enteric fever.	Enteric fever	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Diarrhea in children	Describe the symptoms, signs, and differential diagnosis for patients presenting with diarrhea	Diarrhea	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

BLOCK-IX, MODULE-XX (Multisystem Module – I (Neoplasia)

MBBS YEAR - III
BLOCK - IX
MODULE - XX
Multisystem Module – I (Neoplasia)
Duration: 04 weeks



Integration of Disciplines in Multisystem Module – I (Neoplasia) Module



Preamble

This module aims to enhance students' knowledge of etiology, morphology and pathogenesis of neoplasia, build their ability to recognize signs and symptoms and relate with prevention and treatment modalities. Forensic Medicine and Community Medicine are also taught in relevance where applicable. Students will have opportunities to relate their knowledge through integrated sessions. At least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines.

Students will be taught history taking of and relevant examinations in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Learning Outcomes:

At the end of this module, students will be able to:

1. Relate the nomenclature, characteristic, epidemiology, carcinogenesis, grading and staging, genetic basis, and mechanism of metastasis for understanding clinical presentations of different cancers
2. Correlate the important morphological and pathogenic characteristics, laboratory diagnosis, prevention of infections in immunocompromised patients, Opportunistic bacterial pathogens and HIV/AIDS with their clinical significance
3. Appraise the principles of cancer chemotherapy in relation to its current therapeutic modalities

Structured Summary of Module		
No.	**Discipline**	**Course Content**
1	General Pathology	Neoplasia
2	Microbiology	• Infections in immunocompromised patients • Opportunistic bacterial pathogens • HIV • Herpes viruses • Human Papillomavirus (HPV)
3	Pharmacology & Therapeutics	Anticancer drugs; drug treatment of viral infections (Herpes Simplex, Varicella Zoster, Influenza, COVID, Cytomegalovirus, HIV)
4	Medicine	Clinical features and diagnostic workup for patients with suspected or confirmed neoplastic disorders
5	Surgery	Diagnosis and outline of surgical management options for common solid tumors and their complications (e.g., breast, colorectal, thyroid, etc.)
6	Obs & Gynae	Cervical cancer screening protocols for early detection of precancerous lesions
7	Forensic Medicine & Toxicology	Medical Ethics

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Skin swelling/lump
Neoplasm
Fibroid Uterus

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Neoplasia	Analyze the nomenclature, characteristic, epidemiology, carcinogenesis, grading and staging, genetic basis, mechanism of metastasis and tumor markers	● Neoplasia – Introduction ● Nomenclature of neoplasia ● Characteristics of neoplasia Carcinogenesis ● Molecular basis of cancer ● Biology of tumors ● Mechanism of spread of malignant tumors ● Tumor markers	LGIS, practical, CBL	MCQs/ SEQs/ OSPE/ VIVA
Practical's	Identify slides ● Lipoma ● Leiomyoma ● Basal cell carcinoma ● Squamous cell Carcinoma			OSPE
MICROBIOLOGY				
Microbiology	Correlate the important morphological and pathogenic characteristics, laboratory diagnosis, prevention with their clinical significance of following: ● Infections in immunocompromised patients	● Infections in immunocompromised patients ● Opportunistic bacterial pathogens ● HIV/AIDS ● Measles, Mumps and Rubella ● HSV ● HPV	LGIS/ SGD/ PBL	MCQs/ SEQs/ / OSPE/ VIVA

Theme/Topic	● **Learning Outcomes** At the end of this module, students will be able to:	● **Course Content**	**Instructional strategies**	**Assessment tools**
	● Opportunistic bacterial pathogens ● HIV/AIDS ● Measles, Mumps and Rubella ● HSV ● HPV ● Influenza virus ● Corona viruses ● Adenovirus ● EBV and CMV	● Influenza virus ● Corona viruses ● Adenovirus EBV and CMV		
PHARMACOLOGY				
Chemotherapy	● Appraise the principles of cancer chemotherapy in relation to its current therapeutic modalities ● Outline the radiation therapy ● Rationalize the drug therapy in disease states such as renal and hepatic disease	Introduction & General Principles of Chemotherapy Overview of radiation therapy ● Drug therapy in disease states such as renal and hepatic disease	LGIS/ SGD/ PBL	MCQs/ SEQs/ VIVA
	● Classify various anti cancerous drugs on the basis of their mode of action	Anti-cancerous drugs	LGIS/ SGD/P BL	MCQs/ SEQs/ VIVA
PRACTICALS / SKILLS	Calculate different concentrations of drugs or solutions IV			OSPE
FORENSIC MEDICINE				
Medical Ethics, consent & negligence	Apply ethical principles of medicine as physicians/ in their clinical clerkships according to national as well as international code of ethics	● Powers and jurisdiction of courts ● procedures for inquest, and legal Procedures. ● Important Legal terms ● Application of relevant Legal sections of the penal code ● Role of a medical doctor in the medico-legal system	LGIS/ SGD/P BL	MCQs/ SEQs/ VIVA

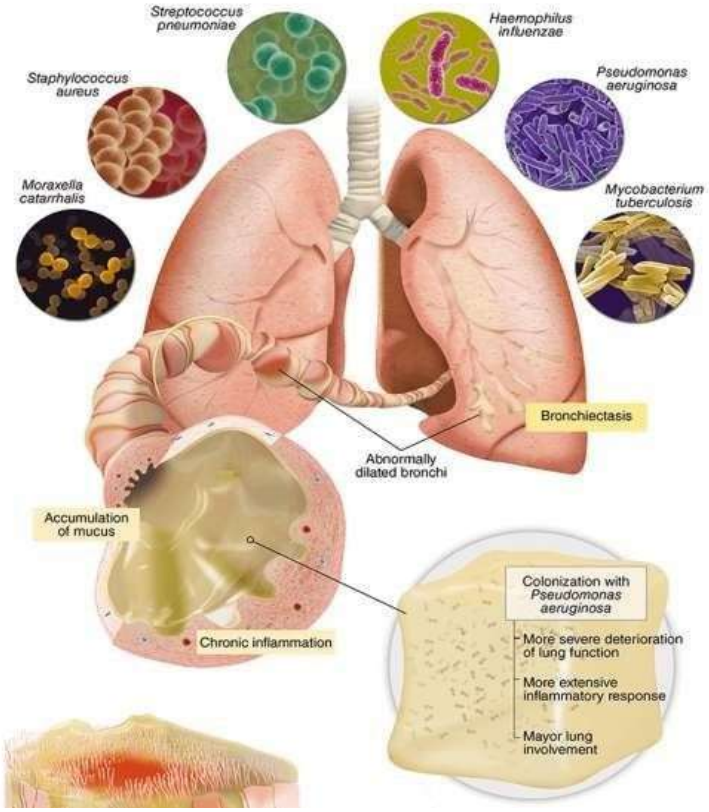
Theme/Topic	Learning Outcomes At the end of this module, students will be able to:	• Course Content	Instructional strategies	Assessment tools
		• Medical evidence in courts. • Document information is to be prepared by a medical doctor for legal procedures. • Procedure of Court attendance and recording of evidence		
COMMUNITY MEDICINE				
Communicable diseases	• Comprehend modes of disease transmission, interaction of agent host and environment in the pre & pathogenesis phases • Advice about preventive measures to control spread of infections	Opportunistic infections • HIV/ AIDS (Excluded by WAH • However, integrated with other subjects)	LGIS/ SGD/ PBL	MCQs/ SEQs/ VIVA
Non-Communicable diseases	• Relate different risk factors to particular patients and general population • Estimate the extent of damage to individuals and communities in terms of morbidity and mortality burden • Suggest preventive measures for these diseases in individuals and populations at-risk	• Cancer causes and prevention • CA breast & Cervix	LGIS/ SGD/ PBL	MCQs/ SEQs/ VIVA
MEDICINE				
Neoplasia	Analyze the clinical aspects of neoplasia	**Clinical Aspects of Neoplasia** Paraneoplastic syndromes and tumor cachexia.	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

Acquired immunodeficiency syndrome	• Relate the pathophysiology of immunodeficiency syndrome to its clinical presentation	**HIV/AIDS**	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

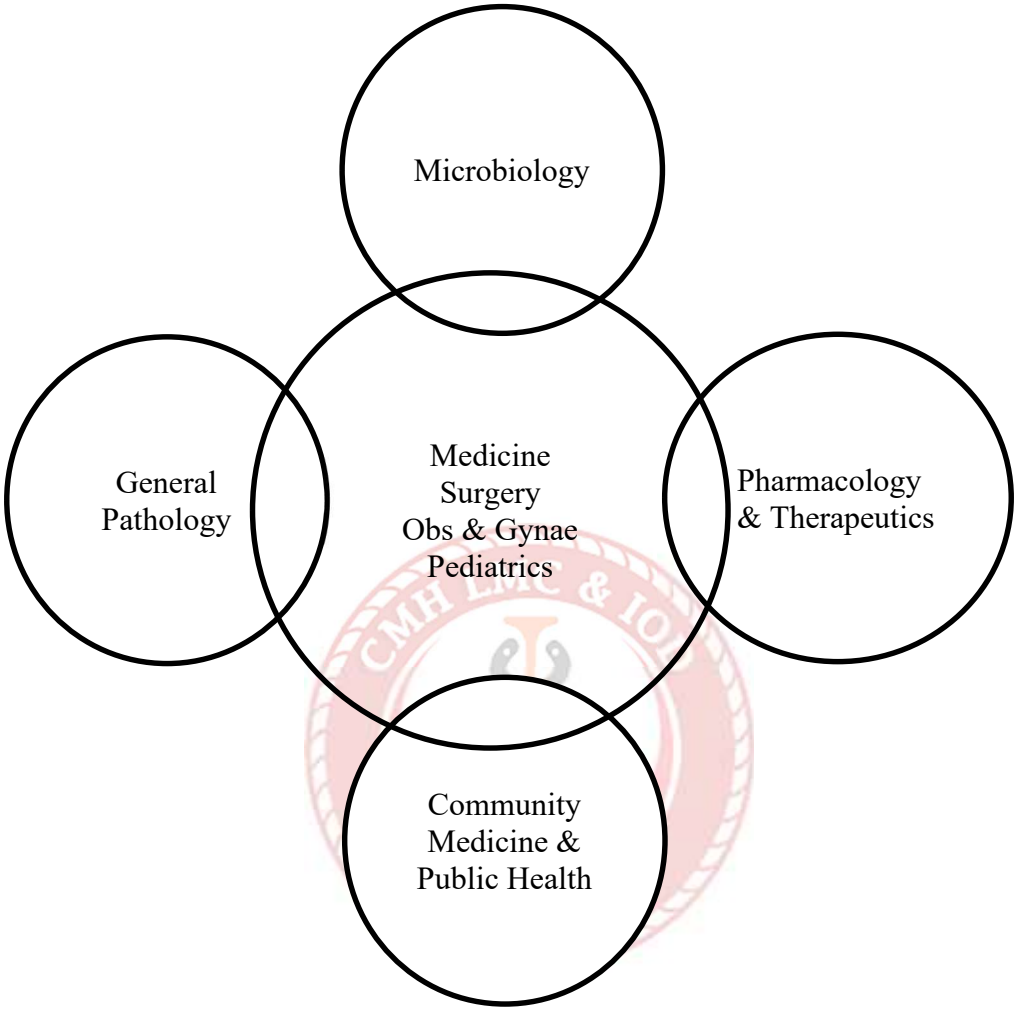
Theme/Topic	• **Learning Outcomes** At the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
	• Identify the modes of transmission and individuals susceptible to the disease • Evaluate various diagnostic modalities and treatment options.			
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Skin swellings and lumps	● Classify lumps in skin & subcutaneous tissue ● Differentiate between benign and malignant tumors ● List the principles of diagnosis and management of lumps in skin & subcutaneous tissue.	Cyst, Dermoid, Papilloma, Fibroma, Bursae, ganglion, Neurofibroma, Schwannoma and Basal Cell Carcinoma ● Classification ● Clinical features ● Diagnosis ● Management	LGIS, practical, CBL	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
OBS & GYNAE				
Gynecological Benign Tumors	● Appraise the epidemiology, etiology, clinical presentation and principles of management of fibroid uterus. Classify common benign tumors of ovary along with their clinical presentation and principles of management.	**Benign:** ● Fibroid uterus Benign tumors of Ovary	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

CONTENT OF BLOCK-IX, MODULE-XXI (Multisystem Module – II (Infectious Diseases)

MBBS YEAR - III
BLOCK - IX
MODULE - XXI
Multisystem Module – II (Infectious diseases)
Duration: 04 weeks



Integration of Disciplines in Multisystem Module – II (Infectious diseases) Module



CMH LMC & IOD

Preamble

This module aims to enhance students' knowledge of etiology, morphology and pathogenesis of the prevalent infectious diseases, build their ability to recognize signs and symptoms and relate with prevention and treatment modalities. Forensic Medicine and Community Medicine are also taught in relevance where applicable. Students will have opportunities to relate their knowledge through integrated sessions. At least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines.

Students will be taught history taking of and relevant examinations in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Aim

This module will enable students to relate their theoretical learning about infectious diseases through

Case based learning, interactive Lectures, integrated sessions and apply this knowledge in relevant clinical scenarios encountered in subsequent years of training and practice.

Learning Outcomes:

At the end of this module, students will be able to:

1. Relate the pathogenesis of common infectious diseases to justify their treatment modalities
2. Recognize preventive measures of common infectious diseases in community
3. Recognize the common clinical infectious diseases in community
4. Follow steps of history taking and examinations for establishing diagnosis

Structured Summary of Module		
No.	**Discipline**	**Course Content**
1	Microbiology	• TORCH infections • Zoonotic and opportunistic pathogens • Spirochete infections • Systemic fungal pathogens • Infection control measures for HAIs (MRSA, VRE, Pseudomonas) • Antimicrobial resistance mechanisms
2	Pharmacology & Therapeutics	• Antibiotics: Penicillin's, Cephalosporins, Sulfonamides, Macrolides, Tetracyclines, Chloramphenicol, Aminoglycosides, Quinolones • Miscellaneous

		antibiotics: Clindamycin, Fusidic acid, Vancomycin, Nitrofurantoin, Linezolid, Carbapenems • Antifungal drugs, Locally acting drugs, Drug–drug interactions
3	Community Medicine & Public Health	• Hospital-acquired, emerging, and re-emerging infections • Infection control practices • Outbreak surveillance • Community-level interventions • Vector-borne zoonotic infections
4	Infection Control	• Infection prevention and control (IPC) measures
5	Medicine	• PUO • Common community-acquired and hospital-acquired infections • Laboratory investigations (CBC, cultures, serology) to guide infectious disease management • Tuberculosis, HIV/AIDS, and opportunistic infections • Principles of infection control and antimicrobial stewardship in clinical practice
6	Surgery	• Surgical site infections (SSI) and post-operative sepsis • Wound care and principles of asepsis • Surgical prophylaxis using appropriate antibiotics • Management plan for soft tissue infections (e.g., cellulitis, abscess, necrotizing fasciitis)
7	Obs & Gynae	• Vaginal infections • Use of antibiotics in pregnancy
8	Pediatrics	• Pediatric tuberculosis
9	Forensic Medicine & Toxicology	• Law in relation to medical practice

List of Proposed Themes for PBL/CBL sessions (at least one/week)

Theme
PUO
Fever with chills
Fever with rash

MICROBIOLOGY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Bacteriology	Correlate the important morphological and pathogenic characteristics, laboratory diagnosis, prevention and virulence factors produced by pathogens causing infectious syndromes with their clinical significance	Overview of pathogens causing infectious syndromes **Bacteriology** ● Tuberculosis ● PUO ● Sepsis ● Hospital acquired infections (MRSA, VRE) ● Clostridia ● Zoonotic pathogens- Brucella / Pasteurella / Yersinia ● Minor bacterial pathogens including Rickettsia, Actinomyces, Nocardia	LGIS/ SGD/ PBL	MCQs/ SEQs/ VIVA
LIST OF PRACTICALS/ SKILLS	● Identify different types of blood culture bottles ● Demonstrate understanding of blood culture collection technique ● Identification of different bacteria ● Interpret Culture and Sensitivity of selected bacteria ● Identification of fungi and yeast ● Interpret ELISA report for HIV B & C			OSPE
PHARMACOLOGY				
Antibiotics	● Justify the treatment modalities for various microbes (bacteria, viruses) according to mode	● Mechanism of Resistance ● Penicillin ● Cephalosporin ● Sulfonamides ● Macrolides ● Tetracyclines	LGIS/ SGD/ PBL	MCQs/ SEQs/ VIVA

	of action, resistance patterns and			

Theme/Topic	Learning Outcomes At the end of this module, students will be able to:	● Course Content	Instructional strategies	Assessment tools
	regional current practices	● Chloramphenicol ● Aminoglycosides ● Quinolones ● Misc. Drugs: ● Clindamycin, Fusidic ● acids, vancomycin, ● Nitrofurantoi n, Linezolid		
Anti-tuberculosis drugs	Justify the management plan of tuberculosis according to mode of action, resistance patterns and regional current practices	Anti- tuberculosis drugs	LGIS/ SGD/PB L	MCQs/ SEQs/ VIVA
HIV treatment	Justify the use of HIV	HIV treatment	LGIS/ SGD/PB L	MCQs/ SEQs/ VIVA
● **Anti-Amoebic** ● **Antihelmintics**	Justify the use of Anti- Amoebic and Antihelmintics	● Anti-Amoebic ● Antihelmintics	LGIS/ SGD/PB L	MCQs/ SEQs/ VIVA
Treatment of Hepatitis B & C	Develop and justify the management plan of hepatitis B & C.	Treatment of Hepatitis B & C	LGIS/ SGD/PB L	MCQs/ SEQs/ VIVA
Anti-fungal drugs	Justify the use of antifungal drugs	Anti-fungal drugs	LGIS/ SGD/PB L	MCQs/ SEQs/ VIVA
Anti-viral drugs	Justify the use of antiviral drugs	Anti-viral drugs	LGIS/ SGD/PB L	MCQs/ SEQs/ VIVA
Locally Acting Drugs	Justify the use of different dermatological drugs, topical drugs, anti-seborrhoeics, locally acting enzymes. ● antiseptics and disinfectants	● Dermatological and topical drugs ● Anti-seborrhoeics, locally acting enzymes. ● Antiseptics and disinfectants.	LGIS/ SGD/PB L	MCQs/ SEQs/ VIVA

Practical's	● Analyze the given quantitative data in a statistically significant manner. ● Write an appropriate prescription	OSPE

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** At the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Law in relation to medical man	● Identify the principles of inter professional and patient interaction in clinical practice ● Correlate the medical ethics while examining patients to medical negligence and professional misconduct ● Justify the guarding of professional secrets and privileged communication. ● Debate on legal and ethical aspects of organ transplantation Employ the moral and ethical implications of medical procedures (Artificial insemination, Therapeutic abortions, Euthanasia, Biomedical research) in clinical practice	● Law in relation to medical man	LGIS/SGD/PBL	MCQs/ SEQs/ VIVA
COMMUNITY MEDICINE				
Emerging & re-emerging infections/Hospital acquired infection	Identify factors causing nosocomial infections and control measures	● Hospital acquired infections Emerging and re-emerging infections ● Brucellosis ● Tsetse fly, sand fly related diseases ● Tick and mite related diseases (as suggested by WAH MC)	LGIS/SGD/PBL	MCQs/SEQs/ VIVA

MEDICINE				
Theme/Topic	● **Learning Outcomes** At the end of this module, students will be able to:	● **Course Content**	**Instructional strategies**	**Assessment tools**
Approach to fever (Acute febrile illness)	● Discuss the etiology and enumerate the symptoms and signs of the disease ● Elaborate modes of transmission and the causative organism ● Identify susceptible individuals ● Diagnosing various stages of disease based on clinical and characteristic features. ● Suggest diagnostic modalities and treatment options. ● Propose prevention options including vaccination.	● PUO ● Malaria ● Dengue ● Enteric fever ● AVH ● Meningitis ● HIV	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching / CBL	OSCE
SURGERY				
Sinuses and fistulas	List the principles of diagnosis and management of sinuses and fistula on the basis of its etiology.	● Classification ● Causes ● Clinical features ● Diagnosis ● Management principles	Lecture /CBL/SDL	Formative assessment
Wound infections	● Identify susceptible individuals ● Diagnosing various stages of disease based on clinical and characteristic features. ● Suggest diagnostic modalities and treatment options		Lecture /CBL/SDL	Formative assessment

	● Proposing prevention options			
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed sid e teaching/ CBL	OSCE
Procedures	Perform under direct supervision ● Intramuscular Injection (10) ● Subcutaneous Injection (5)		Real Patient/ skill lab	Formativ e assessme nt

OBS & GYNAE				
Theme/Topic	● **Learning Outcomes** At the end of this module, students will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Vaginal Discharge/ Lower genital tract infections	● Classify the causes of vaginal discharge ● Summarize methods of diagnosis of various types of vaginal discharge	Concept of etiological factors, clinical diagnosis of: ● Vaginal Discharge ● Lower genital tract infections	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Upper genital tract infections	Appraise the symptoms, relevant investigations and principles of treatment as well as prevention of PID	Concept of etiological factors, clinical diagnosis and management of: Upper genital tract infections	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
PAEDIATRICS				
Infections	● Discuss the etiology and enumerate the symptoms and signs of the disease ● Elaborate modes of transmission and the causative organism ● Identify susceptible individuals ● Diagnosing various stages of disease based on clinical and characteristic features. ● Suggest diagnostic modalities and treatment options ● Propose prevention options including vaccination.	● PUO ● Measles ● Mumps ● Chickenpox ● Malaria/cerebral malaria	LGIS, CBL	MCQs/ SEQs/ OSPE/VIVA

Research Methodology

Third Year					
Block I	**Topic/ Theme**	**Learning Outcomes**	**Course Content**	**Instructional strategies**	**Assessment Tool**
1.	Overview of research process	Formulate research question & research objectives Select study design according to research objectives	Formulation of research question/ research objectives Research methodology	LGIS/ SGD	MCQ/ SEQ
2.	Data collection tool	Formulation of data collection tool	Types of data collection tool Types of questions	LGIS/ SGD	MCQ/ SEQ
3.	Validity of research design and data collection tool	Discuss validity of research design and data collection tool	Internal and external validity, validity of tool	LGIS/ SGD	MCQ/ SEQ
4.	Data analysis - Types of data and presentation	Identify types of analysis according to data Display data according to its type	Techniques for descriptive and inferential statistics Data presentation (graphs, charts)	LGIS/ SGD	MCQ/ SEQ
Block II	**Topic/ Theme**	**Learning Outcomes**	**Course Content**	**Instructional strategies**	**Assessment Tool**
5.	Introduction to systematic review and meta-analysis	Able to conduct steps of systematic review Develop an answerable question using PICO Interpret result of meta-analysis	Steps of systematic review Formulation Objectives using PICO framework Interpretation of Meta-analysis	LGIS/ SGD	MCQ/ SEQ
6.	Sampling technique and Sample size estimation Sampling errors	Identify sampling techniques according to research objectives Determine sample size Identify sampling errors	Purpose of sampling Characteristics of good sample Factors effecting	LGIS/ Group assignment	MCQ/ SEQ

			sampling process Types of sampling		
Block I	**Topic/ Theme**	**Learning Outcomes**	**Course Content**	**Instructional strategies**	**Assessment Tool**
			Approach to Sample size determination		
7.	Statistical data analysis SPSS	Enter data in software Describe results Formulation of charts and graphs	Software for data analysis SPSS Processing and displaying of data	Workshop / Group assignmen t	MCQ/ SEQ
Bloc k III	**Topic/ Theme**	**Learning Outcomes**	**Course Content**	**Instructional strategies**	**Assessment Tool**
8.	Guidelines for medical writing	Able to write manuscript according to guidelines	Journal guidelines/ Guidelines according to Study designs	LGIS/ Group assignment	MCQ/ SEQ
9.	Reference writing	Able to make a list of references according to recommended style	Styles of references, sources of references, Bibliography, citations	LGIS/	Group assignment
10.	Research ethics	Able to identify research ethics for publications	Publication ethics, authorship criteria Authorship guidelines using ICMJE (international committee of medical journal editor)	LGIS/ SGD	MCQ/ SEQ

INFECTION CONTROL

Total contact hours: 25 hours in 3rd year MBBS

Introduction: Infection Control is an important part of quality healthcare and patient safety. Infection control addresses factors related to the spread of infections including prevention, monitoring/ investigation of demonstrated or suspected spread of infection within the particular health care setting, and management. Its aim is to protect the patient and members of hospital team from contracting infections in healthcare settings

Learning Outcomes: **At the end of this course, student will be able to:**	**Topics**	**Department**	**Suggested Blocks**
Recognize the role of pathogenic microorganisms, their virulence and mode of transmission in relation to source of infection, including health care associated infections.	Basic Microbiology for Infection Prevention & Control	**Pathology/ Microbiology**	**Block I**
Apply the concepts of infection control and prevention in health care settings.	● Introduction to Healthcare associated infections ● Standard Precautions ● Transmission based precautions ● Infection prevention and control aspect of occupational health in healthcare settings ● Waste management in healthcare setting ● Cleaning, disinfection and sterilization of reusable surgical instruments and medical devices ● Investigation of outbreak in healthcare institutions ● Preventing Hospital acquired Pneumonia ● Preventing maternal and newborn infections in healthcare settings	**Community Medicine**	**Block III**

Learning Outcomes: **At the end of this course, students will be able to:**	● **Topics**	**Department**	**Suggested Blocks**
	● Preventing healthcare Associated diarrhea ● Work practices in healthcare facilities ● Environmental cleaning ● Managing Food and water services for the prevention of healthcare associated infections ● Structure and oversight of Infections prevention & Control program ● Principals of Public Health emergency preparedness and outbreak management for healthcare facilities		
● Implement IPC practices to stop the spread of infections in healthcare settings ● Identify risk factors within the patient care environment	● Personal Protective Equipment ● Use of personal protective equipment during viral hemorrhagic fever ● Injection safety ● Preventing intravascular catheter associated with blood borne infections	**Medicine**	**Block I, II & III in wards**
● Recommend best practices for infection prevention as it relates to bloodstream infections, surgical site infections and catheter related urinary tract infections.	● Hand Hygiene ● Sharpe injuries & management of exposure to blood borne pathogens ● Prevention of surgical site Infections ● Preventing catheter associated Infections ● Processing of reusable ● healthcare clothing	**Surgery**	**Block I, II & III in wards**

Proposed Teaching Strategies: Some of the suggested methods of teaching are:

1. Bedside / chair-side teaching
2. Demonstrations and discussions in laboratories, wards, clinics, emergency rooms, operation theatres etc.
3. Independent, guided learning
4. Lectures
5. Practice in Skills Lab (for example as role plays/ simulation)
6. Small group discussions (as case-based learning or reflective writing sessions)
7. Team-based learning
8. Tutorials
9. Workshops (e.g. aseptic techniques)

Proposed Assessment:

Formative assessment: Skill lab, end of rotation tests Summative assessment:
Theory: assessed with Microbiology & Community Medicine Practical with clinical subjects
OSCE = 1 x station in Medicine, Surgery, Obs & Gynae and Pediatrics

PROFESSIONALISM AND LEADERSHIP & MANAGEMENT

TOTAL HOURS GIVEN BY NUMS: 10 HOURS

3rd Year (9 Hours MBBS)				
Learning Outcomes	**Course Content**	**Instructional Strategies**	**Assessment Tool**	**Teaching Faculty**
Professionalism				
1. Interprofessional Education: Tips for design and implementation				

Understand the importance and use of Interprofessional education: Tips for design and implementation	• Define Interprofessional education • Exhibit responsibility and decision making skills • Clarify their role in society • Provide evidence based health care to patients, peers, families and community	Interactive lecture/workshop / Small group discussion (SGD)/ Role play	**FA**: MCQs, SAQs, SEQs and OSCE	Behavioural Scientist / DME Faculty
2. Professionalism, Negotiation and Conflict Resolution				
Recognize the importance of professionalism, Negotiation and Conflict Resolution in clinical practice	• Practice honesty and integrity in clinical practice • Recognize and avoid conflict of interest • Identify how and when to maintain appropriate boundaries in	Interactive lecture/workshop / Small group discussion (SGD)/ Role play	**FA**: MCQs, SAQs, SEQs and OSCE	Behavioral Scientist / DME Faculty

	interpersonal relationships • Practice the art of negotiation in resolving conflicts effectively			
3. Etiquette with Patients, Caregivers and Families				
Understand the role of etiquette with patients, caregivers and families	Discuss the following. • Etiquette of the patient • Etiquette of the care Giver • Etiquette of Interaction Between Genders • Dealing with the Family	Lecture/ Role play/ Case Scenarios/ Small Group Discussions (SGD)	**FA**: MCQs, SAQs, SEQs and OSCE	Behavioral Scientist / DME Faculty
4. Consent and Right to Information				
Identify the importance of consent and Right to Information	• Define consent and give its types • Explain PPC section related to consent • Describe principle of informed consent • Define informed refusal	Interactive lecture/ Workshop/ Small Group Discussions (SGD)	FA: MCQs, SAQs, SEQs and OSCE	Behavioral Scientist / DME Faculty

	• Define right to information • Describe ethical, moral and legal importance of consent.			
5. Civic Engagement and its Importance in Clinical Practice				

Understand the importance of Civic Engagement and its importance in clinical practice	• Define civic engagement • Elaborate the importance of civic engagement in medical practices • List the steps to improve access to care • Ways to do justice in distribution of limited resources • Discuss the ways in which welfare concerns of community can be added to concerns for individual patient care • Manage to keep pace with modern changes in	Interactive lecture/ workshop/ Small Group Discussions (SGD	MCQ/ SEQ	Behavioural Scientist / DME Faculty

	practice and in the community. • Discuss the implications of modern communication technology in clinical practice			

Leadership & Management (9 Hours MBBS)				
Learning Outcomes	**Course Content**	**Instructional Strategies**	**Assessment Tool**	**Teaching Faculty**
1. Technology-Driven Healthcare Leadership				
Assess the role of modern technology in the management and leadership within the medical field	• Integrating technology in medical management / leadership • Modernization of Healthcare Services	Lecture, Role play	FA: MCQs, SAQs, SEQs and OSCE	Behavioral Scientist/ DME faculty
2. Enhancing Healthcare Team Performance				

Foster teamwork and develop the ability to identify, raise, and address concerns to effectively resolve conflicts	• Understanding and managing healthcare teams • Collaboration and interdisciplinary teamwork • Conflict resolution in medical settings	Interactive lecture/Role play	FA: MCQs, SAQs, SEQs and OSCE	Behavioral Scientist/ DME faculty
3. Ethical and Legal Issues in Healthcare				
Participate confidently in problem-solving scenarios and strategically choose and apply the most appropriate leadership style	**Ethical and Legal Issues in Healthcare** • Ethical Principles (Autonomy, Beneficence, Non maleficence, Justice) • Legal • responsibilities of medical leaders	Interactive lecture/Role play	FA: MCQs, SAQs, SEQs and OSCE	Behavioral Scientist/ DME faculty
	• Patient rights and confidentiality			
4. Strategies to Improve Performance				

Demonstrate a willingness to contribute to positive system change, uphold a respectful approach towards the leadership and management roles of team members, and foster collaboration for collective success	**Strategies to Improve Performance** • Change Management • Respect for Colleagues	Interactive lecture/Group Discussion Role play	FA: MCQs, SAQs, SEQs and OSCE	Behavioral Scientist/ DME faculty
5. Strategic Management of Healthcare Resources				
Formulate and implement effective strategies for managing healthcare resources	• Strategic planning in healthcare • Financial management in medical institutions • Quality improvement • initiatives	Lecture/ Role play/ Case Scenarios	FA: MCQs, SAQs, SEQs and OSCE	Behavioral Scientist/ DME faculty
6. Patient-Centered Approach to Safety				
Implement patient-centered approaches in Healthcare	• Fostering patient centered approaches	Interactive lecture/workshop/ Group Discussion	FA: MCQs, SAQs, SEQs and OSCE	Behavioral Scientist/ DME faculty/GS

settings to enhance the quality of care and patient satisfaction	• Ensuring patient safety in medical settings • Balancing patient needs with organizational goals			

Clinical Skills in Medicine & Allied

3rd Year MBBS

Levels of Student Engagement in Clinical Procedures:

- Observer status (O)
- Assistant status (A)
- Perform under supervision (PS)
- Perform independently (PI)

Sr #	Clinical Skills	Level 3rd Year MBBS
1.	**Course Title: CARDIOLOGY**	
	CVS examination Systemic &relevant general physical	PS
	ECG	O
	How to apply cardiac monitor	PS
2.	**Course Title: Endocrinology & Metabolic Disorders**	
	Systemic &relevant general physical Examination	PS
	BP recording	PI
	Glucometer Use	PS
	Insulin Injection Technique	PS
3.	**Course Title Pulmonology**	
	Respiratory system examination	PI

	Systemic &relevant General physical	
	Inhaler Technique & Peak Flow Meter	**PS**
	Nebulization	**O**
	Use of pulse oximeter	**PS**
4.	**Course Title: Nephrology**	
	Relevant Systemic & General **Physical examination**	**PI**
5.	**Course Title: GASTROENTROLOGY**	
	GIT Systemic & Relevant General Physical Examination	**PI**
	Nasogastric tube placement	**O**
6.	**Course Title: NEUROLOGY**	
	CNS Examination Systemic	**PI**
	Relevant General Physical	**PS**
7.	**Course Title: RHEUMATOLOGY**	
	Locomotor system examination & Relevant **General Physical Examination**	**PI**
8.	**Course Title: INFECTIOUS DISEASES**	
	Relevant General & Systemic Physical Examination	**PI**

	Injection I/V, I/M, S/C, intradermal	PS
	Urinary catheterization - collection of samples	O
	Collection of blood samples/ blood film preparation	O
	Branula	PS
9.	**Course Title: HAEMATOLOGY**	
	Systemic & relevant general physical Examination	PI
	Injection I/V, I/M, S/C, intradermal	PS
	Collection of samples of blood/blood film preparation	O
	Placing I/V lines/fluids/blood/blood products, direct branula	PS
10.	**Course Title: DERMATOLOGY**	
	Systemic &relevant general physical	PI
	Examination to identify specific skin lesions	PS
11.	**Course Title: PSYCHIATRY**	
	Systemic &relevant general physical	PI
	Examination to identify mental state	PS

Clinical Procedures / Skills in Surgery & Allied
(NUMS MBBS Curriculum 2025)
3rd Year MBBS

Levels of Student Engagement in Clinical Procedures:

- Observer status (O)
- Assistant status (A)
- Perform under supervision (PS)
- Perform independently (PI)

Sr#	Skill / Procedure	Level of student engagement	Notes / Remarks
1.	Wound Dressing	O	Supervised in
2	Urinary catheterization	O	Skill lab
3.	Passing NG Tube	O	Skill lab
4	Placement of IV Canula, Intramuscular & Subcutaneous Injection	O & A	Skill lab

Pediatrics bed side skills for 3rd Year MBBS

S/No	Clinical Learning Activity	Level			
		O	A	PS	PI
1	Patient Safety	✓			
2	Subcutaneous Injection	✓			
3	Intra-muscular Injection	✓			
4	Blood Sampling	✓			
5	Use of Glucometer	✓			
6	Use of Inhalers Nebulizer	✓			

Levels
O-Observer Status
A-Assistant Status
P-S Performed Under Supervision
P-I Performed Independently

Procedural skills to be acquired in Gynae & Obs clinical training

Level of Competency	Procedure
Observe	Female Urinary catheterization
Observe	Surgical Dressing
Observe	Preparation of iron sucrose solution
Observe	Removal of sutures
Observe	Intra Muscular Injection
Observe	Subcutaneous Injection
Observe	Obstetrical examination

How to make the most of this guide

Feedback on Study guide:

We value your feedback and will use it for improvement of this Study guide.
Kindly provide feedback for this study guide at the email: shapeofficial@cmhlahore.edu.pk

Final Note

You've made it through Year 3 - well done.
This year wasn't just about passing exams, but about learning how diseases work, how patients and how doctors should act.
You now have the foundation to:

- Understand common diseases and their treatment
- Take proper histories and perform basic examinations
- Work safely in wards and clinics
- Communicate respectfully with patients and seniors
- Think clinically, not just theoretically

The coming years will be more challenging - and more rewarding. Keep revising, keep practicing, ask questions, and don't be afraid to make mistakes as long as you learn from them.

Most importantly, remember:
You are studying for marks today, but preparing for lives tomorrow.